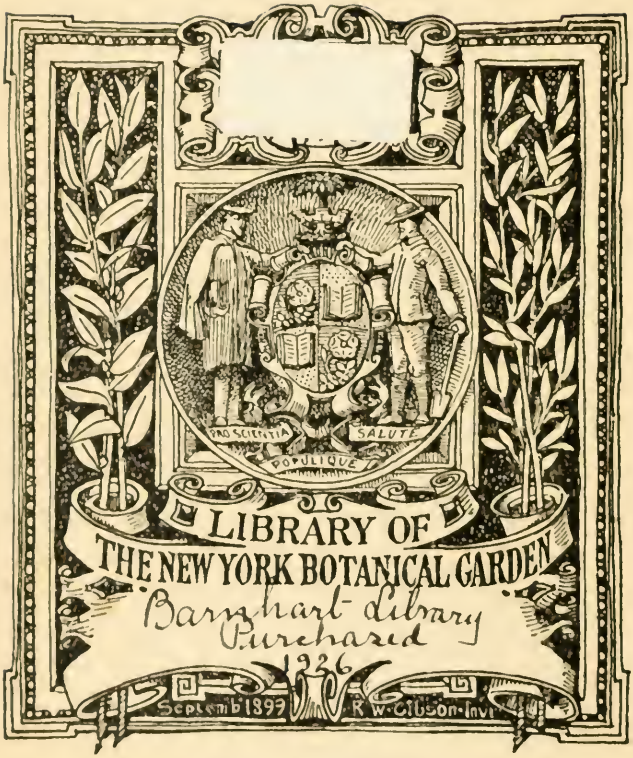
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THE

TRANSACTIONS

OF THE

AMERICAN

MEDICAL ASSOCIATION.

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Page	13,	4th	line	from	bottom	for	E. J. Beadle,	read E. L. Beadle.
"	"	12th	"	"	"	"	Henry Munson,	" Henry Bronson.
"	17,	14th	"	"	"	"	J. M. Kerr,	" J. W. Kerr.
"	18,	6th	"	"	top	"	Quintin,	" Quinton.
"	19,	14th	"	"	"	"	Jacob Preston	" Jacob A. Preston.
"	"	19th	"	"	"	"	J. H. Owings,	" †D. Claude.
"	"	4th	"	"	bottom	"	A. A. Bailey,	" A. H. Bayly.
"	20,	1st	"			"	J. B. Horsey,	" †J. B. Horsey.
"	"	13th	"	"	bottom	"	A. M. Medcalfe,	" W. H. Medcalfe.
"	21,	12th	"	"	top	"	Jas. M. Thomas,	" John M. Thomas.
"	"	20th	"	"	"	"	H. H. Magill,	" H. D. Magill.
"	"	26th	"	"	"	"	W. G. Bates,	" W. J. Bates.
"	34,	12th	"	"	bottom	"	G. S. Upshur,	" G. L. Upshur.

MINUTES

OF THE

FIRST ANNUAL MEETING

OF THE

AMERICAN MEDICAL ASSOCIATION,

HELD IN THE CITY OF BALTIMORE, MAY, 1848.

BALTIMORE, MAY 2, 1848.

The Association met at eleven o'clock, A. M., when the President, Dr. CHAPMAN, opened the proceedings by the following address:

Believe me, gentlemen, that I feel extremely gratified in meeting you on this occasion, and I cannot forbear to tender to you my respectful salutations. Taking the liveliest interest in the great cause in which we are all embarked, I greet you with a welcome, warm, cordial, and sincere.

This assemblage presents a spectacle of moral grandeur delightful to contemplate. Few of the kind have I ever witnessed more imposing in its aspect, and certainly none inspired by purer motives, or having views of a wider range of beneficence. The profession to which we belong, once venerated on account of its antiquity,—its various and profound science—its elegant literature—its polite accomplishments—its virtues,—has become corrupt, and degenerate, to the forfeiture of its social position, and with it, of the homage it formerly received spontaneously and universally. Do not suppose that I comprise the whole profession in this reprobation. There are numerous members of it, who still retain the qualities by which it was formerly distinguished. It may, indeed, be affirmed, that never in its history has it exhibited so many claims to respect as at this very moment. With the present century the spirit of philosophy began to be infused into it, creative of real and substantial improve-

ments in its theories and modes of practice, raising it from a low and conjectural art, to a place among the legitimate sciences, by which great good is already attained, and further benefit of inestimable value promised to suffering humanity. Nor have its disciples among us lingered behind in the career of reform and general advancement. Yet the preceding averment of the deterioration of the profession in some of its features, cannot be denied. The truth of it, indeed, is everywhere recognized and proclaimed. Complaints, at first heard only in the murmurs of discontent, are now so loud, distinct, and potential, as not to be disregarded or admit of further postponement. The commission which accredits you to this Association sufficiently attests the tone of professional sentiment on the subject. Does it not declare the fact, that the profession is environed by difficulties and dangers, arising mainly from the too ready admixture into it of individuals unworthy of the association, either by intellectual culture, or moral discipline, by whom it is abased? and are you not imperatively instructed to purify its taints and abuses, and restore it to its former elevation and dignity?

The pilgrimage you have performed in coming hither, at so many sacrifices of comfort and convenience, evinces the ardour of your zeal, and the loyalty of your devotion to this noble cause. Encouragement is also afforded to the hopes entertained of the success of our enterprise, by the firm, though moderate and dispassionate temper characteristic of the whole of our proceedings. We have been maddened by no extravagances of enthusiasm;—no delirious hallucinations of imaginary perfectibility do we pursue. We are betrayed by no false lights,—and seek only as an attainable good, in soberness of thought, a reform in medicine enacted by a proper regard to its future glory and usefulness. From slumbers too long indulged, the profession has at length awoke, and shaking the poppies from its brows, is recalled to a sense of what is due to itself, and the obligations it owes to preserve its fair heritage, to be transmitted to posterity unsullied, and without detriment or loss. Excited by this generous impulse, it comes forward in the majesty of its might to vindicate its rights, and redress its wrongs. To no other tribunals does it deign to appeal for these purposes. No mean petition of grievances, or supplicatory memorials for relief, or more immediate addresses to popular feeling to engage its favour, shall sully our proceedings. We have in a spirit becoming our just pride trusted, and will, I hope, continue to trust, our cause exclusively to the clear heads, the warm hearts, and strong arms of the host enlisted in its

service. We do not want, nor will condescend to accept of any extraneous assistance. Confiding in our own resources, we shall through them maintain the struggle till conducted to victory and triumph.

Among the subjects claiming the early attention of this meeting, is the election of officers for the ensuing year. Estimating as I do, the presidency of the American Medical Association as the highest honour in the gift of the profession, I must decline that enviable distinction. Rotation in office, I am persuaded, is the vital principle of every institution in this country. Especially do I consider it so in relation to our own association, national in its objects and constitution. Every section of the country is here represented, and equally engaged in a common cause. No monopoly of honour or privileges must be permitted to any one portion of it. I wish our conduct always to be dictated by liberality, justice, and equality. Gratified as I should be by a continuance in that chair, still more will my happiness be consulted, by seeing it occupied by one of the many eminent members which our association claims.

Dr. G. C. M. Roberts, from the Committee on Arrangements, reported the presence of one hundred and ninety-five delegates.

On motion of Dr. Hays, the Committee on Publication was directed to distribute copies of the Proceedings of the National Medical Conventions of 1846 and 1847 amongst the delegates.

The following gentlemen were appointed a committee to nominate officers for the Association.

Drs. H. I. Bowditch,	*Mass.*	Drs. B. R. Wellford,	*Va.*
David King,	*R. I.*	R. S. Stewart,	*Md.*
E. S. Carr,	*Vt.*	S. H. Pennington,	*N. J.*
N. B. Ives,	*Ct.*	L. P. Bush,	*Del.*
J. W. Francis,	*N. Y.*	J. M. Thomas,	*D. C.*
G. B. Twitchell,	*N. H.*	P. C. Gaillard,	*S. C.*
S. Jackson, (Late of Northumberland.)	*Pa.*	P. F. Eve,	*Ga.*
		M. L. Latta,	*Ind.*
R. Rouse,	*Ill.*	L. P. Yandell,	*Ky.*
B. W. Avent,	*Tenn.*	T. Reyburn,	*Mo.*
J. P. Harrison,	*O.*		

On motion of Dr. Condie, it was

Resolved, That the Committee on Nominations be instructed to return three names for each of the offices provided for by the Constitution.

Dr. Hays introduced the following resolution, which was adopted.

Resolved, That the Committee on Arrangements be instructed to propose to the Association the names of such gentlemen as should be received as members by invitation, and further to report the names of all the delegates by States.

[The following list comprises the names of all the delegates and members reported at various stages of the proceedings. Those who were not present are marked thus †.]

United States Navy,	Drs. W. Maxwell Wood, Ninian Pinckney.
U. S. N. Member by invitation,	Dr. J. M. Foltz.
Naval School Hospital,	Dr. John A. Lockwood.
United States Army,	†S. J. G. Decamp.

NEW HAMPSHIRE.

State Medical Society,	Drs. Peter P. Woodbury, †Jas. A. Greggs, †Thomas Chadburn, †Andw. M'Farland, †M. T. Willard, Geo. B. Twitchell, †Ezra Bartlett, †N. Wight, Jas. B. Abbott, Dan'l Flanders, Chas. P. Gage, †E. K. Webster, J. G. Graves, †R. P. J. Tenney, †J. C. Eastman, Albert Smith, Ch. A. Savory.
Med. Soc. of the West. District,	Dr. Jas. Batcheller.

VERMONT.

Vermont Medical Society,	Drs. †J. A. Alden, W. R. Ranney, Horace Hatch.
Castleton Med. College,	Dr. E. S. Carr.
Castleton Alumni Association,	Drs. E. Cushman, †J. Perkins.

MASSACHUSETTS.

State Medical Society,

Drs. A. L. Peirson,
Joseph Reynolds,
†A. Wilds,
Edw. Flint,
†C. W. Wilder,
S. Batcheller,
†S. C. Hartwell,
†J. W. D. Osgood,
†Joseph Sargeant,
†Royal Fowler,
†Robert Worthington,
†Benj. Barrett,
†S. W. Williams,
Paul Spooner,
†Lyman Bartlett,
†P. L. Nicols,
†Aaron Cornish,
†E. W. Carpenter,
†W. Bridgeman,
†Jas. M. Smith,
Z. B. Adams,
†W. J. Walker,
†J. V. C. Smith,
†Alex. Thomas,
†S. Perry,
†H. G. Clark,
†Henry Dyer,
†Geo. Choate,
†J. Spafford,
†Rufus Longley,
J. C. Dalton,
†E. Huntingdon,
†N. Cutter,
Josiah Bartlett,
†J. Wellington,
†Horatio Adams,
†Simon Whitney,
†A. B. Adams,
†Joshua Green,

	†Hiram Hosmer, †J. O. Green, †A. R. Thompson, †J. Stimpson, †E. Alden, †Henry Bartlett, †Edw. Jarvis, †E. Fearing, †John Jeffries, †Winslow Lewis, †D. H. Storer, †Ezra Palmer, †Martin Gay, H. I. Bowditch, †Henry Bryant.
Worcester District Medical Society,	Drs. John Green, †Charles W. Wilder,
Mass. General Hospital,	Drs. John C. Warren, Enoch Hale,
New Bedford Medical Association,	Dr. Paul Spooner,
Middlesex District Med. Society,	Drs. †Alfred Hitchcock, †Amos Bancroft, †J. P. Jewett, †C. S. Mann, †H. Pilsbury, Josiah Curtis.
Med. Department of Harvard University,	Drs. John Ware, Oliver W. Holmes.
Boston City Institution,	Dr. C. H. Stedman.
Berkshire Medical Institution,	Drs. Gilman Kimball, Selden Jennings.

RHODE ISLAND.

Rhode Island Medical Society,	Drs. David King, †H. W. Rivers, Ezekiel Fowler, Joseph Mauran, Usher Parsons, †Jabez Holmes.

CONNECTICUT.

State Medical Society,	Dr. NORMAN BRIGHAM.
Hartford Co. Medical Society,	Drs. ARCHIBALD WELCH, S. B. BERESFORD, †H. A. GRANT, †E. CARRINGTON.
New Haven Co. Medical Society,	Drs. †D. A. TYLER, †LYMAN PARKER, †A. BEARDLEY, †N. C. BALDWIN, †D. L. DAGGETT, JOEL CANFIELD, G. L. PLATT, †J. GOODSELL, N. B. IVES.
New Haven City Medical Association,	Drs. P. A. JEWETT, †E. H. BISHOP, S. PUNDERSON.
Windham Co. Medical Society,	Dr. J. HAMMOND.
Litchfield Co. Medical Society,	Drs. R. M. FOWLER, †GEO. SEYMOUR, A. A. WRIGHT, †R. M. WOODRUFF, M. PETERS.
New London County Medical Society,	Drs. B. FORDYCE BARKER, †W. W. MINER.
Middlesex Co. Medical Society,	Dr. RICHARD WARNER.
Medical Institution of Yale College,	Drs. JONATHAN KNIGHT, †HENRY MUNSON.

NEW YORK.

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†R. G. Tracy,
†T. G. Brinsmade,
†W. Bay,
†J. H. Wheeler,
†Darius Clark,
†Arnold Naudain,
Enos Barnes,
T. C. Brinsmade,
†Bryant Burwell.

Med. Society of N. Y. County,

Drs. †J. Kearney Rodgers,
†B. R. Robson,
†Isaac Wood,
†O. S. Bartles,
E. L. Beadle,
†H. D. Bulkley,
†Alonzo Calkins,
†Galen Carter,
†John C. Cheeseman,
Thos. F. Cock,
Jno. T. Ferguson,
H. S. Downs,
S. P. White,
Jas. R. Wood,
†Aaron Wright,
†Isaac Greene,
†Moore Hoit,
†S. T. Hubbard,
Jared Linsly,
†R. S. Kissam,
Willard Parker,
†J. McClaury,
†W. H. Maxwell,
†Jas. O. Pond,
†J. S. Kilbourne,
†B. Sherwood,
†Nelson Stelle,
†Isaac E. Taylor,
†J. E. Phelps,
†C. B. Archer,
Benj. Ogden,
J. R. Van Kleek.

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N. Y. Pathological Society,	Drs. Lewis A. Sayre, †J. S. Taylor, †S. Cooper, †S. S. Purple.
College of Physicians and Surgeons,	Drs. Joseph M. Smith, C. R. Gilman.
University of the City of New York,	Drs. †Valentine Mott, †John W. Draper.
New York Hospital,	Drs. John Watson, Joseph M. Smith.
Bellevue Hospital,	Dr. D. Meredith Reese.
Blackwell's Island Hospital,	Drs. †J. M'Donald, Arthur B. Stout.
Med. & Surg. Soc. of N. York,	Dr. John Punnett.
K. A. *Soc. of Hippocrates,*	Dr. Gurdon Buck, Jr.

Ontario County Medical Society,	Drs. Harvey Jewett, Edson Carr.
Wayne County Medical Society,	Dr. J. B. Pierce.
Erie County Medical Society,	Dr. †Bryant Burwell.
Troy Medical Association,	Dr. A. J. Skilton.
Med. Association of Southern Central N. Y.,	Dr. J. H. Jerome.
University of Buffalo,	Dr. F. H. Hamilton.
Buffalo Med. Association,	Dr. Walter Cary.

PENNSYLVANIA.

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College of Physicians,	Drs. Isaac Hays, Henry Bond, D. Francis Condie, George Fox, Alfred Stillé, Samuel Jackson, (Late of Northumberland.) N. Chapman, †C. D. Meigs, J. R. Paul, Meredith Clymer.
University of Pennsylvania,	Drs. Hugh L. Hodge, Wm. Gibson.
Medical Institute,	Dr. John Neill.
Jefferson Medical College,	Drs. J. Pancoast, R. M. Huston.
Pennsylvania Medical College,	Drs. J. Wiltbank, W. R. Grant.
Association for Med. Instruction,	Dr. Francis West.

Franklin Medical College,	Drs. W. Byrd Page, Levin S. Joynes.
Philad. College of Medicine,	Dr. Jesse R. Burden,
Pennsylvania Hospital,	Drs. Geo. W. Norris, W. W. Gerhard.
Philadelphia Dispensary,	Dr. H. F. Leib.
Northern Dispensary of Philad.,	Dr. G. W. Patterson.
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Schuylkill Co. Med. Society,	Dr. S. M. Zulick.

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Hunterdon Co. Med. Society,	Drs. †John Lilly, Thos. E. Hunt.
Gloucester Co. Medical Society,	Dr. Thos. J. Saunders.
Passaic Co. Medical Society,	Dr. John Magee.
Salem Co. Medical Society,	Dr. Quintin Gibbon.
Burlington Co. Medical Society,	Drs. J. Haines, †S. Woolston, †Zach. Reed.

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Frederick Co. Medical Society,	Drs. Lloyd Dorsey, J. Stoll Cronise, T. Sappington.
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University of Maryland,	Drs. Nathan R. Smith, William Power.
Baltimore Infirmary,	Dr. Samuel Chew.
Baltimore Medical Institute,	Dr. W. Kinney, Jr.,
Maryland Medical Institute,	Dr. E. W. Theobald.
Southern Dispensary,	Dr. John Addison.
City Dispensary,	Dr. A. M. Medcalfe.
College of Dental Surgeons,	Drs. C. A. Harris, A. Westcott.
Washington University of Baltimore,	Drs. J. C. S. Monkur, †E. Holman.
Maryland Hospital,	Drs. J. Fonerden, R. S. Stewart.
Washington University Hospital,	Dr. W. T. Leonard.
Mount Hope Hospital,	Dr. W. H. Stokes.
Almshouse Infirmary,	Drs. T. H. Buckler, W. H. Baxley.
Hospital of Baltimore City and Co. Jail,	Dr. T. C. Atkinson.
Maryland Penitentiary Hospital,	Dr. Alfred Baker.

DISTRICT OF COLUMBIA.

National Medical College,	Drs. W. P. Johnston, Grafton Tyler.
Medical Department of National Institute,	Dr. Jas. Wynne.
Med. Association of Washington,	Drs. †S. C. Smoot, Cornelius Boyle, †J. Eliot, J. E. Morgan.
Medical Society of the District of Columbia,	Drs. †J. C. Hall, Noble Young, T. B. J. Frye, Jas. M. Thomas, F. Howard.
Permanent Member,	Dr. Harvey Lindsly.

VIRGINIA.

Virginia Medical Convention,	Drs. B. R. Wellford, G. L. Corbin, J. F. Peebles, H. H. M'Guire.
Loudon Co. Medical Society,	Dr. H. H. Magill.
Fredericksburg Medical Society,	Drs. B. R. Wellford, G. F. Carmichael.
Norfolk Medical Society,	Drs. †T. T. Andrews, Geo. L. Upshur.
University of Virginia,	Dr. Henry Howard.
Ohio Co. Medical Society,	Drs. W. G. Bates, S. W. M'Ilhenny.
Winchester Medical College,	Drs. H. H. M'Guire, R. Randolph.
Petersburg Medical Faculty,	Drs. †John Braggs, †B. H. May.
Member by Invitation,	Dr. Henry Selden.

SOUTH CAROLINA.

State Medical Society,	Drs. †James Moultrie, †J. E. Holbrook, †T. Y. Simons, †W. T. Wragg, Edward Elfe.

South Carolina Medical Association,	Drs. †James Moultrie, P. C. Gaillard, †R. E. Wylie, †R. W. Gibbes, †E. Geddings, †W. L. Moultrie, †E. Horlbeck, †P. Bellinger, †J. S. Barnett, S. W. Barker.

GEORGIA.

Med. College of Georgia,	Drs. Paul F. Eve, Jos. A. Eve.
Georgia Med. Society,	Drs. †C. P. Richardson, †R. D. Arnold.

ALABAMA.

State Medical Association,	Drs. †P. H. Lewis, †A. Lopez, †W. B. Johnson, †B. A. Blakey, †B. R. Hogan, †H. V. Wooten, †J. E. Prestridge, †E. Gault, †F. A. Bates, †D. H. Bythewood.
Montgomery Medical Society,	Drs. †W. M. Boling, †W. H. Rivers.

LOUISIANA.

Permanent Member,	Dr. Edw. H. Barton.

MISSISSIPPI.

State Medical Society,	Drs. †Reim, †Copes, †J. W. Phillips.

MISSOURI.

St. Louis University,	Dr. Thomas Reyburn.

OHIO.

Med. College of Ohio,	Drs. †John Locke, John P. Harrison.
Ohio Lunatic Asylum,	Dr. Wm. M. Awl.
Starling Medical College,	Drs. R. L. Howard, S. M. Smith.
Med. and Chir. Soc. of Cincinnati,	Drs. John P. Harrison, Wm. Judkins, J. F. White, †U. Lakey, †L. M. Lawson.
Pathological Society of Cincinnati,	Drs. J. P. Harrison, †C. W. Conner.
State Medical Society,	Dr. M. Z. Kreider.
Belmont Medical Society,	Drs. H. Wilson, E. Gaston.
Med. Department of Western Reserve College,	Dr. J. J. Delamater.
Member by Invitation,	Dr. George Fries.

KENTUCKY.

University of Louisville,	Dr. L. P. Yandell.

TENNESSEE.

State Medical Society,	Drs. S. H. Harris, B. W. Avent, L. W. Knight.

ILLINOIS.

Rush Medical College,	Dr. J. B. Herrick.
Peoria District Med. Society,	Drs. W. G. Edwards, R. Rouse.

INDIANA.

Laporte University, and Indiana Medical College,	Drs. A. B. Shipman, Dan'l Meeker.
Med. Soc. of Northern Indiana,	Dr. M. M. Latta.

WISCONSIN.

Rock River Medical Society, { Drs. †G. C. Goodhue, †S. G. Armor, A. E. Ames, †J. P. Nash, †A. Clarke.

TEXAS.

Dr. †Ashbel Smith.

[*Note.*—The foregoing list comprises *four hundred and ninety-two* names. *Two hundred and sixty-six* delegates and members were present. From *twenty-four* states, in addition to the District of Columbia, and the army and navy, lists of delegates were handed in, and representatives from *twenty-one* of these states attended the meeting. A delegate from Wisconsin, who was accidentally prevented from reaching Baltimore previous to the adjournment of the meeting, is included in the above enumeration. The distribution of the delegates by states, &c., is given below.

	Reported.	Present.		Reported.	Present.
U. S. Navy	4	4		464	262
U. S. Army	1		Alabama	12	
N. Hampshire	18	9	Mississippi	3	
Vermont	6	4	Missouri	1	1
Massachusetts	70	19	Ohio	17	13
Rhode Island	6	4	Kentucky	1	1
Connecticut	28	15	Tennessee	3	3
New York	100	45	Illinois	3	3
New Jersey	11	8	Indiana	3	3
Pennsylvania	65	51	Wisconsin	5	1
Delaware	9	5	Texas	1	
Maryland	96	68			
District of Columbia	13	10		513	287
Virginia	17	14	Of which were on		
South Carolina	15	3	more than one de-		
Georgia	4	2	legation	21	21
Louisiana	1	1			
			Total reported	492	
	464	262	Total present		266]

On motion of Dr. Stillé, it was ordered that all resolutions be presented in writing.

The Association adjourned to meet at 4 P. M.

Afternoon Session.

Dr. KNIGHT, Vice-President, in the chair.

The Committee on nominations presented the following

Candidates for the office of President, Drs. A. H. STEVENS, J. C. WARREN, and J. P. HARRISON:

Candidates for the offices of Vice-President, Drs. L. P. YANDELL, R. S. STEWART, B. R. WELLFORD, W. GIBSON, J. C. WARREN, P. F. EVE, J. MOULTRIE, S. H. HARRIS, J. P. HARRISON, J. FITHIAN, U. PARSONS, D. MEEKER:

Candidates for the Secretaryship, Drs. A. STILLÉ, J. R. W. DUNBAR, S. H. HARRIS, G. S. UPSHUR, G. C. M. ROBERTS, E. W. THEOBALD:

Candidates for the office of Treasurer, Drs. I. HAYS, S. CHEW, and W. H. BAXLEY.

Dr. S. W. BARKER moved that the report be amended by adding the name of Dr. J. W. FRANCIS to those of the candidates for the Presidency, and the names of Dr. JOHN WARE and Prof. JACKSON to those of the candidates for the Vice-Presidencies,—which was *carried*, and the Report thus amended, adopted.

The following gentlemen were appointed tellers of the election, Drs. F. C. STEWART, J. D. GRISCOM, P. A. JEWETT and T. E. BOND, Jr.

On motion of Dr. WATSON, the delegates prepared for balloting, and the nominations were read by the secretary.

The following resolution was laid upon the table:

Resolved, That in the election for officers of this Association, in addition to the nominations of the Committee, any one may be voted for at the first balloting; and should there be no election, the second voting shall be restricted to those three gentlemen having the highest votes; and at the third (should this be necessary) only the two highest upon the balloting shall be considered before the meeting.

Dr. T. E. BOND, Jr., moved that a plurality of votes be sufficient to elect an officer.

Dr. STEWART proposed to amend by restricting the operation of the rule to the President, but the motion failed.

Dr. BIDDLE moved to strike out all after the word "Resolved," and insert, that all officers shall be elected by a majority of votes, which was *carried*, and the original motion, as amended, *passed*.

Dr. GEORGE FRIES, of Ohio, and all gentlemen present belonging to the Army or Navy Medical Staff, not already delegates, were

then, on motion of the Chairman of the Committee on Arrangements, declared members by invitation.

Dr. HAYS presented the Report of the Committee on Publication, with the Treasurer's Report, which were read. On motion of Dr. ATLEE, it was *Resolved*, That these Reports be accepted, and entered upon the minutes, and that the thanks of the Association be presented to Messrs. Lea & Blanchard for the gratuitous services rendered by them. (*See Appendix* G.)

Dr. CORBIN introduced the following resolution, which he gave notice that he would call up on the last day of the meeting.

Resolved, That the American Medical Association, being fully persuaded that harmony and good feeling should exist among all the members of the Medical Profession throughout the world, and that union and concert will tend to elevate the Profession, and add to its honour and usefulness, and being fully impressed with the importance of these matters, do appoint

to represent this body in the British Association, and with them send twelve copies of our Journal of Proceedings.

Dr. STOUT offered the following resolution, which was *adopted*.

Resolved, That the daily meetings of the Association be divided into two sessions, the first from 9 to 2 o'clock, the second from 4 to 7 o'clock.

Dr. G. C. M. ROBERTS moved that the President appoint a committee of five to prepare rules of order for the government of the Association, to report at the next morning session. *Carried.*

The committee consists of Drs. J. WATSON, D. F. CONDIE, A. WELCH, E. HALE, and J. L. ATLEE.

On motion of Dr. Hamilton, the rules were suspended to allow of taking up the remaining business of the Association, and the reading of the minutes was dispensed with.

Dr. F. C. STEWART announced that, as the result of the first ballot for officers, were elected,

Prof. SAMUEL JACKSON, a Vice President.

Dr. ALFRED STILLÉ, a Secretary; and

Dr. ISAAC HAYS, Treasurer.

On motion, it was *Resolved*, That the next balloting for President be confined to the two highest on the lists reported by the tellers; for Vice Presidents to the six highest, and for Secretary to the two highest on the said lists.

On motion of Dr. J. WARE, the selection of the next place of meeting of the Association was taken up for consideration, but the

motion being immediately reconsidered, it was withdrawn by its original mover.

The Association then adjourned.

Wednesday, May 3d.

Dr. KNIGHT, Vice President, in the chair.

On motion of Dr. HAYS, the ballot for officers last taken, and of which the result had not yet been announced, was set aside.

Prof. JACKSON, Dr. HAYS, and Dr. STILLÉ resigned the offices to which they had been respectively elected.

Dr. HAYS moved that a committee of one from each state be appointed to report officers for the Association.

Dr. BURDEN moved to amend by providing that the members of the Nominating Committee be selected by the delegates from the several states.

The amendment was accepted by Dr. HAYS, and his motion, as amended, adopted.

The following committee was accordingly appointed:

Drs. BERESFORD,	*Conn.*	Drs. J. P. HARRISON,	*O.*
ASKEW,	*Del.*	G. L. CORBIN,	*Va.*
T. J. SAUNDERS,	*N. J.*	B. W. AVENT,	*Tenn.*
J. WOODBURY,	*N. H.*	R. S. STEWART,	*Md.*
D. MEEKER,	*Ind.*	E. S. CARR,	*Vt.*
P. C. GAILLARD,	*S. C.*	W. P. JOHNSTON,	*D. C.*
J. C. DALTON,	*Mass.*	U. PARSONS,	*R. I.*
J. A. EVE,	*Ga.*	R. ROUSE,	*Ill.*
A. C. POST,	*N. Y.*	T. REYBURN,	*Mo.*
S. JACKSON,	*Pa.*	L. P. YANDELL,	*Ky.*
(Late of Northumberland.)			

Dr. CONDIE, from the committee appointed to prepare rules of order for the government of the Association during its present session, reported the following resolution, which was adopted:

Resolved, That the Rules of Proceedings and Debate comprised in "Cushing's Manual," be adopted as the rules of Order for the present session of the Association.

Dr. LINDSLY offered the following resolution, which was lost.

Resolved, That a member of the Association be appointed at this meeting as Orator, to deliver an Address at the next annual meeting, and that an alternate be also selected to officiate in case of the failure of the first.

The following communication was read by the Secretary:

Philadelphia, May 1st, 1848.

ALFRED STILLÉ, M. D., *Sec. of the American Med. Association:*

The accompanying Code of Ethics of the Philadelphia College of Pharmacy was adopted at an adjourned meeting, held March 31st, 1848. A committee was appointed to furnish it to the various medical bodies in this city, and "to take other measures for its circulation as they may deem expedient." In accordance with the spirit of the resolution to this effect, a number of copies are supplied for distribution among the members of the American Medical Association.

Very respectfully,

J. CARSON.

On motion of Dr. STILLÉ, the Code of Ethics of the Philadelphia College of Pharmacy was ordered to be entered on the minutes. (*See Appendix* H.)

Dr. J. R. WOOD presented a communication from the New York College of Pharmacy, regarding the importations and vending of impure drugs, which was received, and ordered to be placed on file.

Dr. T. O. EDWARDS, a member of Congress from Ohio and Chairman of the Special Committee of the House of Representatives, to which was referred the subject of the importation of worthless, adulterated, and misnamed drugs,—was introduced to the Association, and invited to address it.

Dr. EDWARDS read a very full and interesting statement of the extent to which drugs are falsified, particularly with a view to their sale in the United States. (*See Appendix* K.)

Dr. E. HALE moved, that the thanks of the Association be presented to the Hon. Dr. EDWARDS, for his important and interesting communication, and that a Committee be appointed to prepare and report to this Association, a memorial to Congress, on the subject. *Adopted.*

On motion of Dr. F. C. STEWART, it was directed that the Committee consist of five members, appointed by the President.

The President appointed on this Committee, Drs. U. PARSONS, C. C. COX, J. W. FRANCIS, R. M. HUSTON, and E. S. CARR.

Dr. C. C. COX introduced the following Resolution, which was referred to the Committee under Dr. HALE'S Resolution.

Resolved, That a Committee of five be appointed, to report at the next annual meeting of the Association:

1st. The nature and extent of the sophistication and adulteration of drugs, as practised by the wholesale dealers and retail druggists.

2d. The best means for the prevention of the evil, in its various forms.

Dr. E. S. Carr, Chairman of the Committee, on the nomination of officers, reported the following nominations, which were unanimously confirmed.

PRESIDENT,

Dr. A. H. Stevens, *of N. Y.*

VICE PRESIDENTS,

Dr. John C. Warren, *Mass.*, Dr. Samuel Jackson, *Pa.*,
Dr. Paul F. Eve, *Ga.*, Dr. W. M. Awl, *Ohio.*

SECRETARIES,

Dr. Alfred Stillé, *Pa.;* Dr. H. I. Bowditch, *Mass.*

TREASURER,

Dr. Isaac Hays, *Pa.*

On motion of Dr. Atlee, the chairman of the nominating Committee conducted the President to the chair, who returned thanks in the following address:

Accept, gentlemen, my profound acknowledgments for the distinguished honour you have conferred upon me. Were it not esteemed beyond all price, it would be earned, dearly earned, by the oppressive sense of embarrassment it brings with it. I fear I may disappoint your expectations in the discharge of the duties imposed upon me. I have not sought this station, and having never presided over so large a deliberative assembly, am not much conversant with the rules of parliamentary procedure. But among members of our brotherhood, who acknowledge one faith, and sacrifice at the same altar, there are feelings of good will and sympathy, which, when properly appealed to—certain chords which, when rightly touched, never fail to elicit a harmonious response; on this, I confidently place my trust.

In elevating to the Presidency of the American Medical Association the very humble individual who addresses you, two important principles appear to have been asserted: 1. That of rotation in office; 2. The preference of those who have been longest connected with your body.

Our meetings, gentlemen, have been conducted hitherto in a spirit

of mutual forbearance and good will. I trust the same spirit will continue to animate you.

Our profession, gentlemen, is the link that unites Science and Philanthrophy. It is one of the strongest ligaments that binds together the elements of society. It teaches the rich their dependence, and elevates the poor to a sense of the innate dignity of their nature. Its aim is to add to the comfort and length of human life.

In a country, where population is not crowding on the means of subsistence, and where every individual has the largest opportunity of promoting his own happiness, and of perpetuating it in his posterity, the medical profession, entirely philanthropic in its objects, more intimately connected with the pursuits of science than the other learned professions, and not overshadowed by an hereditary aristocracy, enjoys pre-eminently a high social position, and for all legitimate objects a commensurate influence. Of that profession in the various states of the Union, you are the representatives here assembled, to lay deep and broad the foundations of its future usefulness.

Your proceedings will be regarded with deep interest both here and in Europe. History is writing her page; let it be one on which the profession everywhere, and in future time, will dwell with pride.

Our Association stands forth without a parallel in its high purposes, and in its means of accomplishing them. May it prove an exemplar of similar organizations in our sister republics of the Western hemisphere, and exhibit in a new form to our brethren in Europe, the easy adaptation of our institutions to the great end of promoting the happiness of mankind.

On motion of Dr. Watson, the Vice Presidents, and the ex-Vice President, lately in the chair, were invited to take seats on the platform.

Dr. F. West presented the following Resolution, which was unanimously adopted:

Resolved, That the thanks of the Association be presented to the late officers of the Association, for the able, faithful, and gentlemanly manner in which they have performed their duties.

Dr. Hays, from the Committee on Publication, presented a Supplementary Report, with the following Resolutions, which were adopted.

Resolved,—1st. That the assessment for the present year be three dollars.

2d. That voluntary contributions be invited.

3d. That one copy of the printed proceedings be furnished to such members only of the Association as shall have paid the assessment for the year.

4th. That those members of the Association who pay *five* dollars instead of the assessment of three dollars, shall be entitled to three copies of the proceedings.

5th. That the Committee on Publication be authorized to make such arrangements for the sale of the transactions of the Association, and to present copies to such public libraries, editors of medical journals, &c., as they may consider expedient.

The Report of the Standing Committee on Obstetrics was presented by its chairman Dr. HARVEY LINDSLY. After being read, it was accepted, and referred to the Committee on Publication. (*See Appendix* D.)

Dr. G. L. CORBIN offered the following resolution:

Resolved, That the Association, at the beginning of the session of to-morrow, will consider the question of a place for the next meeting.

Invitations were then presented for the next meeting of the Association, to be held in Boston, Washington, D. C., Columbus, Cincinnati, Buffalo, Nashville, Charleston, and Newark.

The resolution and invitations were, on motion, laid upon the table, to be taken up according to the order of business.

The following Resolutions were presented.

By Dr. STILLÉ. *Resolved*, That the delegations from the several states be earnestly requested to urge upon the deputations in Congress of their respective States, the necessity of a law against the importation and sale of adulterated, deteriorated, and misnamed drugs, and to recommend the enactment of the law presented by Dr. EDWARDS, the chairman of the special committee in the H. R. having charge of the subject.

By Dr. T. F. COCK. *Resolved*, That the delegation of each state be requested at once to memorialize the representatives of their State in Congress, with a view of forwarding the passage of a law regulating the sale of drugs.

By Dr. COX. *Resolved*, That a committee of three be appointed by the Association, to collate and digest the required information upon the subject of the abuse and adulteration of drugs, practised by wholesale dealers, and retail druggists throughout the country, and to report such measures for the suppression and prevention of this growing evil, as will in their opinion conduce to this end.

These resolutions were passed over informally, and the reports of the Standing Committees called for.

Dr. NORRIS presented and read a report from the Committee on Surgery, and Dr. I. PARRISH, a continuation of the report from the same Committee, confined to the discussion of the use of anæsthetic agents in Surgery (*See Appendix* C), which with the accompanying documents (*See Appendix* C 1, C 2, C 3, &c.), were referred to the Committee on Publication.

Dr. F. C. STEWART laid upon the table the following resolution.

Resolved, That a Committee of one from each State be appointed to report to this Association, at its session of to-morrow morning, the names of gentlemen to compose the various standing committees for the present year, and that said Committee be instructed to present the names of such members only as are in actual attendance.

Upon which the Association adjourned.

Afternoon Session.

The Association was called to order by the President.

On motion the rules were suspended, to permit the consideration of the above resolution offered by Dr. STEWART, which was then adopted; and the Committee ordered to consist of the same members as that appointed for the nomination of officers, with the substitution of Dr. P. A. JEWETT for Dr. BERESFORD, of Conn., absent, and of Dr. S. H. HARRIS for Dr. AVENT, of Tenn., withdrawn.

On motion of Dr. W. PARKER, the same Committee was instructed to report a suitable place for the next meeting of the Association.

Dr. O. W. HOLMES presented and read the report of the Committee on Medical Literature, which was referred to the Committee on Publication. (*See Appendix* F.)

On motion of Dr. A. L. PEIRSON, the Association proceeded to consider so much of the Reports on Obstetrics and Surgery as relates to the subject of anæsthetic agents.

Dr. J. C. WARREN addressed the meeting especially in reference to the preparation and value of chloric ether as a substitute for sulphuric ether and chloroform.

Dr. HAMILTON presented the following Resolution:

Resolved, That considering the present limited amount of authenticated facts in relation to the danger or safety of anæsthetic agents in Medicine, Surgery and Obstetrics, this Association is not now prepared to determine upon their value or the propriety of their use,

and that the subject be referred to a Special Committee who shall report at the next annual meeting.

Dr. PEIRSON moved that the proposition be divided, and the preamble and resolving clauses be considered separately, which was carried.

The mover of the resolution yielded to a motion for adjournment, with the understanding that his proposition should be taken up at the next meeting.

Adjourned.

May 4, *Morning Session.*

The Association met at 9 A. M. The President in the chair.

The minutes of yesterday's meetings were read and approved.

Dr. ROBERTS presented a memorial from the Naval Medical Corps of the United States. (*See Appendix* I.)

Dr. COHEN, of Baltimore, presented the following resolutions, which were *adopted*:

Resolved, That the American Medical Association regards, with pride and satisfaction, the services rendered, and the position maintained by that portion of their Profession associated with the Military Department of the country; and in consideration of the severe and arduous duties which the medical officers have performed, the risks and dangers to which they have been exposed in the performance of those duties, during a period of warfare, and in an unhealthy climate, it is deemed just and proper, by this Association, that their services should receive, from the Government, an acknowledgment corresponding to that awarded their brother officers.

Resolved, That the Members of this Body hereby express their gratification with the position recently assigned the Medical Officers of the Navy; and that their influence will be used to sustain their Naval brethren in a position alike due to them and the profession of which they are members.

Resolved, That a copy of these resolutions be forwarded to the Secretaries of War and of the Navy, through the chiefs of the Medical Department of each service, and to the Chairman of the Military and Naval Committees in each House of Congress.*

* The following letter from the Secretary of the Navy was received after the adjournment of the Association:

"NAVY DEPARTMENT, *May* 10, 1848.

"GENTLEMEN:—I have the honour to acknowledge the receipt of your letter of the

Dr. JAMES WYNNE presented a communication from the Medical Department of the National Institute on the subject of *Hygiene*, (*See Appendix* J,) and subsequently offered the following:

Resolved, That the communication of the Medical Department of the National Institute be referred to a Select Committee of five, to be appointed by the chair, with instructions to report before the adjournment of this Association. *Postponed.*

Dr. ROBERTS presented the following resolution referring to the communication from the Naval Medical Corps, which had been introduced by himself.

Resolved, That the communication of Dr. W. M. WOOD and Dr. N. PINKNEY, U. S. N., be referred to the Committee on Publication, and published with the documents. *Postponed.*

Dr. E. S. CARR, from the Committee appointed to nominate Standing Committees for the ensuing year, reported the following nominations, which were adopted, after the substitution of the name of Dr. S. JACKSON, (late of Northumberland,) for that of Dr. BELL, declined:

Committee of Arrangements.

Dr. JACOB BIGELOW, Boston, *Chairman.*

Dr. E. HALE, Boston,	Dr. JOHN WARE, Boston,
" Z. B. ADAMS, "	" O. W. HOLMES, "
" J. C. DALTON, "	" H. I. BOWDITCH, "

Committee on Medical Sciences.

Dr. L. P. YANDELL, Kentucky, *Chairman.*

Dr. S. M. SMITH, Columbus, O.,	Dr. SAMUEL JACKSON, (late of Northumberland,) Pa.
" J. F. WHITE, Cincinnati,	" G. S. UPSHUR, Virginia,
" E. S. CARR, Vermont,	" S. H. HARRIS, Tennessee.

5th instant, enclosing a copy of resolutions adopted by the 'American Medical Association,' at its late annual session in Baltimore.

"Appreciating the valuable services of the Medical Officers of the Navy, it gives me great pleasure to place on the records of the Department the just and kind notice taken of them by so enlightened and respectable a body of their fellow-citizens as the 'American Medical Association.'

"I am, very respectfully, your obedient servant,

"J. Y. MASON.

"Messrs. ALFRED STILLÉ, H. I. BOWDITCH,

"*Secretaries 'American Medical Association.'*"

Committee on Practical Medicine.

Dr. D. F. Condie, Pennsylvania, *Chairman.*

Dr. W. W. Gerhard, Pa.,
" M. Clymer, Philada.,
" John Ware, Boston,
Dr. Grafton Tyler, D. C.,
" J. Fithian, N. Jersey,
" M. Z. Kreider, Ohio.

Committee on Surgery.

Dr. N. R. Smith, Md., *Chairman.*

Dr. H. F. Askew, Delaware,
" W. H. Baxley, Baltimore,
" J. Knight, Connecticut,
Dr. J. Pancoast, Philadelphia,
" H. H. McGuire, Virginia,
" A. B. Shipman, Indiana.

Committee on Obstetrics.

Dr. B. R. Wellford, Virginia, *Chairman.*

Dr. J. F. Peebles, Virginia,
" Noble Young, D. C.,
" Z. B. Adams, Mass.,
Dr. C. R. Gilman, N. York,
" J. A. Eve, Georgia,
" R. Rouse, Illinois.

Committee on Medical Literature.

Dr. J. P. Harrison, Ohio, *Chairman.*

Dr. G. Fries, Ohio,
" W. G. Edwards, Illinois,
" W. M. Latta, Indiana,
Dr. O. W. Holmes, Mass.,
" R. S. Stewart, Md.,
" J. M. Thomas, D. C.

Committee on Medical Education.

Dr. F. Campbell Stewart, New York, *Chairman.*

Dr. John Watson, New York,
" J. M. Smith, "
" A. L. Peirson, Mass.,
Dr. S. H. Pennington, N. J.,
" P. C. Gaillard, S. C.,
" D. Meeker, Indiana.

Committee on Publication.

Dr. Hays, Philadelphia, *Chairman.*

Dr. A. Stillé, Philadelphia,
" H. I. Bowditch, Mass.,
" D. F. Condie, Philada.,
Dr. J. R. W. Dunbar, Md.,
" B. F. Barker, Connecticut,
" J. Jump, Delaware.

The committee likewise recommended the city of Boston as the place at which the next annual meeting should be held. The report was *accepted*, and its nominations and recommendation confirmed.

Dr. Wellford read a report from the Committee on Medical Education, (*See Appendix* E,) accompanied by the following resolutions:

1. *Resolved*, That this Association considers defective and erroneous

every system of medical instruction which does not rest on the basis of practical demonstration and clinical teaching; and that it is, therefore, the duty of the medical schools to resort to every honourable means to obtain access for their students to the wards of a well-regulated hospital.

2. *Resolved*, Therefore, that this Association earnestly and respectfully appeals to the trustees of Hospitals to open their wards for the purposes of clinical instruction, satisfied that they will thereby more efficiently aid the cause of humanity, and more perfectly accomplish the benevolent intentions of the founders of the charity.

3. *Resolved*, That the practice of appointing physicians and surgeons to the charge of an hospital on political, or other grounds than those of professional and moral worth, is inconsistent with the welfare of its inmates, and, of consequence, inhumane and unjust, subversive of the objects of its founders, and incompatible with a conscientious appreciation of the high responsibilities devolved on the appointing power.

4. *Resolved*, That this committee reiterate, and strongly recommend to the Association, a practical observance of the resolutions appended to the report of the Committees on Preliminary Education, and on the requisites for graduation, submitted to the Medical Convention which assembled in Philadelphia in May, 1847.

5. *Resolved*, That the faculties of the medical schools be advised and requested carefully to examine the students after their attendance on their first course of lectures, and to issue certificates of proficiency to such as merit them; and to regard the possession of such certificate, and attendance on another full course of lectures subsequent thereto, indispensable preliminaries to a final examination for the doctorate.

6. *Resolved*, That this Association recommend to the faculty of each medical school to conduct the final examination of candidates for the diploma, in presence of some official person or persons properly qualified to recognize the attainments of the candidate, but who has no pecuniary interest in the institution, or in the number of its pupils.

7. *Resolved*, That it be also recommended, that, in lieu of the usual inaugural Thesis, or in addition thereto, each candidate for the diploma be required to present to the faculty, at or before the time of final examination, a report, drawn up by himself, and from his personal observation, of not fewer than *five* cases of disease, and upon which he shall be duly examined.

8. *Resolved*, That the faculty of each Medical School be requested annually, and as early as possible, to furnish the Chairman of the Committee on Education with a statement of the number of its pupils and graduates, together with such other information as may expedite the labours of the committee, and enable it to discharge the duties assigned by the constitution under which it acts.

On motion of Dr. STILLÉ, the Association went into Committee of the Whole to discuss these resolutions.

Dr. KNIGHT, of Conn., in the chair.

The first four resolutions were adopted without dissent.

Pending the discussion on the fifth resolution, the committee, on motion of Dr. F. C. STEWART, rose and reported progress, in order to give an opportunity to the Chairman of the Committee on Practical Medicine to make a verbal statement of the contents of the written report, which, by an unavoidable accident, could not be presented to the Association. (For this report, see *Appendix* B.) The committee had leave to sit again.

Dr. HAYS proposed the following, which was passed.

Resolved, That the Chairman of the Committee on Practical Medicine be requested to transmit a copy of his report to the Committee on Publication.

Dr. HAYS asked permission to inquire whether it was the sense of the Association, in referring the minutes, reports of the standing committees with the accompanying documents, and other papers to the Committee on Publication, that they should be published entire, or that the Committee should have discretionary powers? Whereupon it was, on motion, *Resolved*, That discretionary powers be vested in the Committee.

The Association again went into Committee of the Whole, and continued the discussion of resolution fifth presented by the Committee on Medical Education. Dr. KNIGHT in the chair.

Various amendments and substitutes were offered, and the discussion continued until near the usual hour of adjournment. The committee then rose, reported progress and unfinished business, and asked leave to sit again during the afternoon session. Granted.

Afternoon Session.

The Association met at 4 P. M. The President in the chair.

Dr. J. WYNNE called up the resolution offered by him, during the morning session, relative to the appointment of a committee to con-

sider the memorial presented by the Medical Department of the National Institute. *Accepted*, and the following special committee appointed:

Drs. James Wynne, *Baltimore*, Drs. Isaac Parrish, *Philadelphia*, J. M. Thomas, *Washington*, G. L. Corbin, *Virginia*, Dr. O. W. Holmes, *Boston*.

The resolution offered by Dr. Roberts, relative to the Naval Medical Corps, was taken up and adopted. (*See Appendix* I.)

Dr. Usher Parsons, from the Select Committee on the Adulteration of Drugs, presented the draft of a Memorial to Congress relative to the subject, and, on motion, it was ordered that said memorial be signed by the officers of this Association, with the names of the various states in which they reside appended to said signatures, and that the memorial, thus authenticated, be sent to the care of Dr. Edwards, Member of Congress, and Chairman of the Special Committee appointed by Congress upon this subject. (*See Appendix* K 1.)

The Association then went into Committee of the Whole for the further discussion of the resolutions offered by the Committee on Medical Education.

Dr. Atlee moved a division of the fifth resolution.

The following amendment, presented by Dr. R. H. Thomas, was accepted in place of the first part of the original resolution, and ordered to be reported to the Association.

Resolved, That the Faculties of the different schools be requested and advised to institute daily or weekly examinations recapitulatory of the previous lecture or lectures, and take such measures as may enable them to ascertain the regular attendance of the students upon the lectures up to the close of the term.

The second part of the original resolution, viz., that part relating to a record of students examined, was rejected.

The *sixth* resolution was then considered, and the following amendment, offered by Dr. T. B. N. Frye, was rejected.

Resolved, That State Medical Societies be requested to appoint, with the consent of Faculties in their respective States, a Board, to consist of *three* Practitioners of Medicine, in the vicinity of each place where a Medical College exists, who shall be present at the Doctorate examinations of said College; and, where no State Society exists, that the appointment be left to this Association.

The original resolution was then adopted.

The *seventh* and *eighth* resolutions were adopted, and ordered to be reported to the Association.

The committee then rose, and reported the resolutions as amended, which were adopted by the Association.

Dr. J. L. Atlee called up the preamble and resolution formerly presented by him:

Whereas, The objects of the American Medical Association cannot be effectually carried out without a more general and efficient co-operation of the Profession throughout the United States:

Be it therefore *Resolved*, That it is earnestly recommended to the Physicians of those States in which State Medical Societies do not exist, that they take measures to organize them before the next meeting of the American Medical Association. *Adopted.*

Dr. F. Campbell Stewart gave notice, in writing, to amend the constitution so as to grant to permanent members the privilege of voting, as was intended and proposed by the committee which prepared the constitution.

Dr. Hamilton moved that the resolution formerly offered by him, relating to Etherization, be referred to the appropriate standing committees. *Adopted.*

Dr. Arthur B. Stout offered the following resolution, which was laid upon the table.

Resolved, That this Association strongly recommend to the Trustees and Governors of all Hospitals and Medical Charitable Institutions in the United States, the propriety of appointing, in their respective institutions, one or more qualified Doctors of Medicine, whose special duty it may be to keep a detailed and full report of all the cases admitted to their institutions, and publish once or more annually such report of cases; that such officers act in concert with the resident and visiting physicians, and receive a salary.

The following resolution, offered by Dr. J. J. Jerome, was likewise laid upon the table.

Resolved, As the sense of this Association, that the customary fees for the granting of Diplomas or Licenses to practise Physic and Surgery should, in no case, depend upon the success of the applicant.

The following resolution, offered by Dr. N. Young, was laid on the table.

Resolved, That a committee of one from each State and District be appointed, and instructed to memorialize the Legislatures of the different States, and the Congress of the United States, to pass some laws requiring the venders or manufacturers of patent medicines, or secret nostrums, to affix, in a conspicuous place upon the bottle,

package, box, or other thing containing the same, in English, the names of the articles contained in said medicine, with the quantity of each.

Dr. Josiah Curtis, of Mass., gave notice of the following amendment to the Constitution, which he should present next year.

In enumerating the Standing Committees, there shall be inserted the words, "A Committee on Sanitary Improvement," and in defining the duties of the Standing Committees, there shall be inserted in its proper place the following paragraph:

The Committee on Sanitary Improvement shall present an annual report on the general sanitary condition of our country, compared with that of other localities, embracing, as far as practicable, the existing arrangement of the Prisons, Hospitals, Educational Institutions, Manufacturing Establishments, &c. &c., in their relations to the laws of health and life. They shall also point out with discretionary minuteness the more obvious infringements of nature's code of health generally permitted by the authorities of cities and densely populated districts, and their influence on human viability; including any other information tending to the increased valuation of human life.

Dr. G. L. Corbin, from the Select Committee to whom was referred the memorial from the Medical Department of the National Institute, reported as follows.

The Select Committee, to whom was referred the communication from the Medical Department of the National Institute, to the American Medical Association, on the subject of Hygiene, beg leave to report, That they have examined the subject submitted to them, and recommend the appointment of a Committee on Hygiene, to consist of twelve members, to be appointed by the President, and with power to fill vacancies in their own numbers. *Adopted.*

Dr. Pennington presented an act relating to the registry and returns of the Births, Marriages, and Deaths, in the State of New Jersey, passed at the last meeting of the legislature of that State. Ordered to be placed on file.

Dr. Z. B. Adams gave notice of the following amendments to the constitution, that he should offer at the next annual meeting.

The following plan of organization of the American Medical Association is proposed, instead of the one adopted at the meeting of the Convention, held in May, 1847, at Philadelphia.

The title of the Association to remain as before.

The second article to be amended so as to read as follows

The members of this Institution shall collectively represent, and have cognizance of, the common interests of the medical profession in every part of the United States.

The business of the Association shall be conducted by delegates chosen by the Institutions above-mentioned, every year, at least one month before the annual meeting, in May. Each delegate, &c., as in the printed text.—The word permanent, 2d line p. 57, to be stricken out; also the two succeeding paragraphs, beginning with "The permanent members," to be stricken out.

The next paragraph should begin, "*Every delegate elect*, instead of "Every member elect."

The 3d section should have the words "delegates of" inserted before the words "Association" in the first and last lines.

Section 6th, 5th line of first paragraph, the word "members" should be changed to "delegates."

Section 7th, any member of this Association, who shall have belonged to it for the preceding ten years, and not been chosen a delegate during that time, may claim the right of being a delegate for that year.

Section 7th should be altered to section 8th, and the last words of the first paragraph should read "delegates in attendance" instead of "members in attendance."

In the order of business, the first line should read, "at the annual meetings of the delegates of" instead of "annual meetings of the American Medical Association."

Section 11th, regarding the choice of permanent members, *should be stricken out.*

On motion of Dr. WATSON, Dr. EDWARD H. BARTON, of New Orleans, was chosen a permanent member.

Dr. STILLÉ read a report, signed by Dr. JOHN H. GRISCOM, of the Standing Committee on the registration of Births, Marriages, and Deaths, which was accepted and referred to the Committee on Publication. (*See Appendix* L.)

Dr. POWER moved, that the report of the Committee on Medical Sciences be referred to the Committee on Publication. *Adopted.* (*See Appendix* A.)

Dr. CORBIN brought up his resolution relative to the appointment of delegates to the British Association, which, after having been amended by the addition of the following, after the words "British Association," "and to the Provincial Medical and Surgical Association," was *Adopted.*

On motion of Dr. STILLÉ, the report of the Committee on Indigenous Botany, was referred to the Committee on Publication, (*See Appendix* M.;) and it was voted that the documents appended thereto be returned to the Committee, and that the Committee be requested to continue its researches during the ensuing year.

Reports of the number of Practitioners of Medicine in Virginia, Massachusetts, and Delaware, were presented by the Secretary, and on his motion referred to the Committee on Publication. (*See Appendix* N, N. 1, & N. 2.)

Dr. J. L. ATLEE gave notice of the following proposed amendment to the Constitution:

That in addition to the Standing Committees of this Association, there shall be one on "Unfinished Business" to be appointed by the President of this Association, as soon after the organization of the Association as may be convenient; whose duty it shall be to attend to the business of the Association, and bring before it such matters as without their attention, may escape the notice of the Association before its adjournment.

Dr. HUMES, of Pa., called up his resolution, presented at the last meeting of the Association, relative to Premature Interments. *Referred to Committee on Hygiene.*

The Association then adjourned.

May 5th.

The Association came to order at 9½ A. M.

Dr. J. C. WARREN offered the following resolution, which was *adopted:*

Resolved, That in order to prevent loss of time to the Association, the Committee on Arrangements be requested to sit on the day before the annual meeting, and that all members who arrive on or before that day, be desired to present their credentials without delay.

The President announced as members of the Committee on Hygiene,

Dr. JAMES WYNNE, Baltimore,
" CHARLES P. GAGE, Concord, N. H.,
" JOHN M. THOMAS, Washington, D. C.,
Dr. ISAAC PARRISH, Phila.,
" PETER C. GAILLARD, Charleston, S. C.,
" L. P. YANDELL, Louisville, Ky.,

Dr. J. P. Harrison, Cincinnati,
" Albert Smith, Peterboro, N. H.,
" J. Curtis, Lowell, Mass.,
Dr. Edw. H. Barton, N. O.,
" J. H. Griscom, New York,
" Turner, N. O.

The number of delegates to the British, and the Provincial Medical and Surgical Associations was then, on motion of Dr. Fox, limited to twelve, and their appointment entrusted to the President and Vice-Presidents. The following gentlemen were appointed:—Drs. George B. Wood, Philadelphia; Jacob Bigelow, Boston; H. H. McGuire, Winchester, Va.

Sundry resolutions and papers were then presented and disposed of as follows:

By Dr. Joel Hopkins:—

In order to promote the high purposes of this Association, and give practical efficiency to its recommendations, it is hereby

Resolved, That a College or Bureau of Examiners be instituted, to consist of the President and officers, *ex-officio*, and seven of the members, to be chosen annually, and that they be invested with power to confer diplomas on such persons as may apply for the same, provided they sustain satisfactory examinations in all those departments of Literature and Science, which may be deemed by the said Board necessary to belong to an accomplished physician.

Resolved, That those diplomas may be of two grades: *First*, that of *Bachelor of Medicine*, to be conferred on those who may be found to possess the lowest standard of qualifications contemplated by this Association as essential; and, *second*, that of *Doctor of Medicine* on those who may have previously obtained the degree of A. M. from some accredited College, or who can sustain an examination that would entitle them thereto.

Resolved, That the fee to be required therefor shall not be more than sufficient to defray the cost of procuring and preparing the same.

Referred to the Standing Committee on Medical Education.

By Dr. Stillé:—

Resolved, That the thanks of the Association are hereby tendered to its Committee on Arrangements, and to the Committee of Reception of the delegates from Baltimore, for their constant and efficient exertions to provide for the comfort and enjoyment of this body;—to the Medical Faculty of the University of Maryland, to the Faculty of the Washington Medical College, and to the members of the

Medical Profession in this city for their warm and courteous welcome, and hospitable entertainment, which have strengthened the bonds of personal friendship and professional brotherhood between them and the delegates from other parts of the United States.—*Adopted unanimously.*

By Dr. Bowditch:—

Resolved, That the Committee on Public Hygiene be requested to investigate the effects of confinement in prisons and penitentiaries, and of the discipline in general, in those institutions, on the health of their inmates, and report to the next meeting of the Association. —*Adopted.*

By Dr. Zulick:—

Resolved, That the members of this Association be requested to transmit to the Chairmen of the appropriate Standing Committees the histories of any important cases which they may meet with in practice.—*Passed.*

By Dr. Stout:—

Resolved, That the power vested in the State and County Medical Societies to confer a license legally to practise medicine is liable to great abuse, and that the Association earnestly recommends the repeal of that power.—*Referred* to the Standing Committee on Medical Education.

Dr. C. A. Savory gave notice that he would propose to amend the Constitution by making the number of members of each Standing Committee *nine* instead of *seven*, and that in the organization of said committees, "each medical body represented in the Association shall be entitled to the appointment of one, at least, of its delegates upon some one of the Standing Committees."

Dr. Q. Gibbon proposed the following alteration of the constitution in regard to the election of officers, viz., "They shall be nominated by a special committee of one member from each state represented at the meeting, and shall be elected by vote on a general ticket, the candidate having the highest number of votes to be considered the officer elect," &c.—*Laid over.*

Dr. L. P. Bush proposed, as an amendment to the Constitution, that members by invitation shall have the same right to participate in the affairs of the Association as permanent members, and not, as now, the same as delegates.—*Laid over.*

Dr. F. C. Stewart proposed, as an addition to the Constitution, that "at all meetings of this Association for the transaction of busi-

ness, the presence of *fifty* members (delegates or permanent members) shall be necessary to constitute a quorum."—*Laid over.*

Dr. STILLÉ presented a circular from the Philadelphia College of Pharmacy, with resolution and memorial to Congress annexed, relative to the introduction and sale of spurious and sophisticated drugs, which was, on motion, referred to the Committee on Publication.

By Dr. R. H. THOMAS:—

Resolved, That the delegates from Medical Societies, Universities, Colleges, &c., be requested to suggest to their several constituencies the propriety of making an annual contribution towards the funds of this Association, in proportion to the number of copies of the Proceedings desired by them.—*Passed.*

By Dr. UPSHUR:—

Resolved, That the Committee on Publication be desired to append to the Proceedings of the Association, each year, a catalogue of its officers and permanent members.—*Passed.* (*See Appendix* P.)

By Prof. S. JACKSON:—

Resolved, That the Committee on Hygiene be requested to direct their attention to the following subjects:

First,—What is the influence likely to be produced by the extensive introduction of tea and coffee into the diet of persons under the age of puberty?

Second,—What is the influence of the substitution of the luxuries, tea and coffee, as food, upon the health of the labouring classes?—*Adopted.*

Dr. J. R. W. DUNBAR read a letter from Dr. STEPHEN H. WILLIAMS, of Deerfield, Mass., on the propriety of taking measures for preserving a record of the lives of the eminent physicians of the United States, and submitted the following resolution:

Resolved, That the Constitution be so amended as that a permanent committee be appointed on Medical History and Biography.—*Laid over.*

A communication was at the same time presented from Dr. WILLIAMS in relation to the number of Practitioners of Medicine in the State of Massachusetts.—*Referred* to the Committee on Publication.—(*See Appendix* N, 3.)

Dr. GURDON BUCK, jr., presented, with a drawing, a Memoir, entitled, "A new feature in the Anatomical Structure of the Genito-Urinary Organs," which was referred to the Committee on Publication.—(*See Appendix* O.)

By Dr. BAXLEY:—

Resolved, That the thanks of this Association be presented to the Hon. J. G. DAVIS, Mayor of the city of Baltimore, for facilities placed at the disposal of the Committee of Arrangements for promoting the comfort and convenience of the Association.—*Passed.*

By Dr. J. B. BIDDLE:—

Resolved, *unanimously*, That the thanks of the Association are tendered to the President for the ability, courtesy, and impartiality, with which the duties of the chair have been discharged.

The resolution was so amended as to embrace a vote of thanks to the remaining officers, and then adopted: after which, the Association adjourned.

ALFRED STILLÉ,
HENRY I. BOWDITCH, } *Secretaries.*

APPENDIX.

A.

REPORT OF THE COMMITTEE ON MEDICAL SCIENCES.

The Committee on Medical Sciences report,—That in order to accomplish the duty assigned them, they have diligently examined the journals of the past year, believing that in them they would find all that they require. The materials which they have met with in those publications are ample, and the committee feel that they labour more under the embarrassment of choosing well, than of collecting abundantly. The difficulty of making proper selections has indeed been sensibly felt; and a reasonable fear is entertained, that in striving to keep this report within proper limits, much has been omitted which is deserving of notice. In endeavouring to keep up some link of connection between the various subjects noticed, and to fill up, at least, the outlines of the pictures sketched, they may have been tempted from the rigid construction of their directions, and trenched upon matters not strictly new—and especially do they fear—nay, they are convinced—that they will not, with all their diligence and the strictest economy of the space they have at their disposal, be able to review all that is deserving of attention. The changes which are so rapidly taking place, in almost all the departments of Medical Science, since new means of investigation have shown them to us in new points of view, have given an importance to the periodical literature of the day not heretofore possessed, to such an extent, by that class of productions. To analyze them all, would be to enter on the discussion of every subject within the range of the medical sciences. Many of these questions are still in doubt. Information is still wanting to complete their history. The observations recorded, on almost all of them, are still wanting in such a degree of precision and certainty, as is necessary to make the history of them complete. It will be no part of the duty of this committee, to endeavour to harmonize discordant opinions, nor to settle the relative value of opposing views. But they will in all fairness, be compelled to state each writer's case with equal clearness. The committee will, as far as they possibly can, confine their periscope to the year just passed.

But, when occasionally they find matter of commanding importance, and which has not yet been fully, and in an accessible form, brought before the mass of the profession, it will not, they apprehend, be beyond their attributes to notice it here. Again, the special duty of the committee is to notice improvements in medical sciences in America; but this they think will not confine them to what has originated here. The condition and progress of these sciences on this side of the ocean, cannot be separated from their advancement in other countries. What has originated in one place, has been cultivated and improved in another, and the same subject occupying the attention of industrious and intelligent observers, at the same time, in far separated regions, receives impetus in a direction different, perhaps, from that which it would have had from the single impulse of one observer. So that the position actually occupied, at any given time, by a scientific subject, is seldom that in which it would be placed by the labours of one person, uninfluenced by comparison with those of others. Such is the freedom of intercourse between different countries, that improvements in scientific matters early become common property.

The condition of science in any one country, cannot possibly be estimated by a review of the contributions of that country alone. The progress of the different branches included in that general phrase is effected by slow and gradual aggregation. The farther they advance towards perfection, the more difficult it becomes to separate from the whole, the contribution of any one of the infinite number of collaborators whose individual labour is lost sight of in the entire collection. They stand in America, in the position in which they have been placed, by the slow aggregation of materials from every source. The contribution, whether it comes from American or other writers, becomes an integral part of the mass, regardless of the source from whence it originates. It will not then be possible, nor would it be desirable, for the committee to attempt any selection from the materials placed at their disposal, founded on any local or national ground of distinction. It will fully, they apprehend, meet the requirements of the rule under which they act, if they strictly and accurately note the source from which they derive what is selected, and fairly state the claims of all. So much they promise in advance, and trust they will receive the kind indulgence of the Association, for the imperfect manner in which the task may be performed; in consideration of the insufficiency of the space to which they must restrict themselves, and the extent of the subject

to be disposed of. They must also bespeak the kindness of those whose contributions to our American journals may of necessity be omitted. The rule they lay down for themselves is, in the first place, to select such subjects for their notice as seem most important and interesting, and then to gather and condense into the smallest possible space all they meet with on these subjects, irrespective of the sources from whence they originate. If by pursuing this plan, they may be compelled to pass over matters of weight and merit, they feel that they will do no more than postpone the claims of these authors. Their successors in office will not fail, in taking their own views of the subjects they will have to discuss, to vindicate the just rights of such as may have been, from necessity, excluded from the present notice.

In disposing of the subjects enumerated in the rule, the committee will follow pretty much the order there observed, only deviating from it occasionally, for the purpose of preserving as far as they may be able, uniformity and simplicity in the details of the discussion.

And first, of

ANATOMY AND PHYSIOLOGY.

1. *Of Development.*—Mr. Paget* explains his doubts as to the correctness of the ordinary theories of cell development, since, in very numerous examinations of tumours and other morbid growths, he has not found a single example in which a cell has appeared to be forming or formed around a pre-existing nucleus; or one in which fibres have appeared to be formed out of nucleated cells; or one in which nucleated cells have appeared to constitute a stage towards any form of higher development. But he has seen rapidly growing structures composed of large collections of fibres, without a nucleated cell among or near them. Others with nucleated cells, but scarcely any free nuclei or granules, and nothing like a cell incompletely developed around its nucleus. And again others with no cells at all, but composed entirely of corpuscles, like nuclei or cytoblasts. Now the structure of such morbid growths, he thinks peculiarly adapted for testing a theory of cell-development. He thinks the ordinary (not the exceptional) mode of development of fibres is not through nucleated cells, but from a structureless or demigranular substance, which is first *marked*, then broken up into fibres. The cytoblasts

* Brit. and For. Med. Rev., July 1846.

embedded in this substance influence the development of the fibres, he does not know how, but not by converting themselves into fibres. They shrivel and disappear as the fibres increase and become more perfectly formed. He thinks the nucleated cell is always a terminal and not a transitional form in morbid growths. These views are developed and illustrated principally by reference to the appearances presented by morbid growths.

2. *Bones.*—Prof. Owen* has made large contributions towards the perfection of that theory, in accordance with which efforts have been made to establish a universal law of formation for all the bones of the vertebrate skeleton—a type pervading the whole, which may be traced in all. There is a modification of greater or less extent imprinted upon the structure and form of the different parts of each segment of the vertebral column, in accordance with the requisites for the accommodation of the parts about and within it. But all these modifications are made with a uniformity of design, so that there is no great difficulty in tracing out the original archetypal plan. The modification is greatest in the human skull; yet, even here, the idea may be traced, and an analogy is presented by the separate and additional bones of the lateral and (in part) central portions of this complex structure to the simple vertebræ of the central segments of the spine, where the nearest approach is made to the ideal archetype. The researches of the Professor are profound, and the theory important, in view of its bearing on the general law of development for all the parts, soft as well as osseous, of the human frame. A condensed view of the theory is given by Ranking, in his Report on the Progress of Anatomy and Physiology, in his half-yearly Abstract, from July to January last, a work to which the committee will here acknowledge their indebtedness.

3. *Intimate Structure of Bone.*—Mr. John Quekett† reported that he has ascertained the existence of a certain relation between the size of the cells of bone and the blood-discs in different animals; these cells being largest in reptiles, smaller in fishes, and still smaller in birds. A discovery of interest and importance to the Comparative Anatomist and Natural Historian.

4. *Nerves—Contractile movement of Nerves.*—M. Mandl‡ has been able to verify the fact that nerves do possess such movements

* Report of Brit. Ass. in 1846, and Lecture on Fishes in 1847.

† At the Microscopical Soc., Nov. 11, 1847. ‡ Archives Générales, Nov. 1847.

of their own. These movements have also been noticed by MM. Serres and Geoffrois de St. Hilaire.

5. *New Ganglion in the Eye.*—Mr. Wharton Jones* has described a minute ganglion, about one-sixtieth of an inch in diameter, connected by a short pedicle to the largest of the ciliary nerves, in the eye of the dog. It is situated at a point nearer to the entrance of the nerve into the eyeball than its origin from the lenticular ganglion. It is composed of a small collection of nerve corpuscles, from which a few nervous fibrils proceed, and which, united into a fasciculus, forms the pedicle by which it is joined to the ciliary nerve; proving that a ganglion may be composed simply of a mass of ganglionic corpuscles, and nerve fibrils proceeding from it. He names it the "Ganglion Cæcum Ciliare."

6. *Office of the Ganglia.*—M. C. Robin† has endeavoured to prove that the ganglia of the spinal nerves, and of the great sympathetic do not give origin to elementary nerve tubes, as many modern anatomists admit, but that all nerve tubes arise, exclusively, from the spinal chord and encephalon. Hence ganglia can only be regarded as special little nervous centres, performing, with respect to certain functions, the same office as does the cerebro-spinal axis for the other functions. Wagner's observations, on the contrary, corroborate the suggestion of Todd and Bowman, that nervous fibrillæ take their rise immediately from the ganglion corpuscles. Each elementary fibre of the myencephalic nerves, which enters a ganglion, passes into a corpuscle, in which may also be seen its nucleus and nucleolus.‡ From each ganglion-globule there arises another nervous fibre, which is prolonged into the peripheric branch.

7. *Nerves and Ganglia of the Heart.*—Dr. Robert Lee§ has given a minute description of these, to which the committee can only refer, as the article does not admit of being condensed. And M. Gros‖ has, with much accuracy, displayed the manner in which *nerves pass* into *bone*. Three nerves enter the nutricious foramen; two come with the artery, which he calls "dyaphysial;" the third, which is occasionally double, in the femur approaches through the vastus internus. These are branches of the crural; but, in man,

* Med. Gaz., Nov. 13, 1846.
† Académie des Sci., 21 Juin, 1847.
‡ Comptes Rendus, 10 Mai, 1847.
§ Med. Times.
‖ Archives Générales de Méd., Jan. 1847.

there is a branch from the sciatic also. In the foramen is a ganglion which he has minutely described, as well as the relations which it bears to the nervous twigs. Its object seems to be to collect the nerves, coming in from several sources, previous to their final distribution, which takes place in a manner similar to the vascular distribution on the medullary and periostal surfaces.

8. *Of Muscle—New Muscle.*—Dr. Bruke* describes the gray ring around the anterior part of the choroid, on its outer surface, (orbicularis ciliaris,) as muscular, and names it "spammuskel der choroidea."

9. *Involuntary movements of Muscles of Animal Life.*—M. Delrou† has very curiously discussed this subject, dividing the movements into two classes: 1st. Where their execution is invariable, identical and independent of circumstances or education, as yawning, sneezing, vomiting, expectoration, &c., all of which are performed exactly alike by everybody. 2d. Where they are less regular, and may be acquired by slow, continued practice of the will. They may not always be performed alike, as in shrinking, and the instinctive movements of gesture, &c. Each of these classes has several varieties, founded upon the structure of the muscles themselves; the kind of motion which their action is intended to produce; the functions of the organs to which they are attached, and the degree of importance of the movements themselves.

10. *Excitability of Muscles.*—Dr. Harless‡ has given the result of his experiments on the Muscular Excitability, using ether to destroy the nervous influence. The galvanic current applied to the brain or nervous trunks of a rabbit, killed by cutting the carotids, while under the influence of the ether, produced no action; but strong contraction took place when the muscle itself was touched. Here it is suggested that the muscle may have retained the nervous influence it had before the use of the vapour; but it shows that the nerves were deprived of their conducting power. This, Dr. Harless suggests, may be due to the action of the ether on the fat which forms one of the chief constituents of nerve. Dr. Dowler shows that muscles will contract under irritation of a blow, sharply given, as late as ten hours after death.

* Jahresbericht der gesammten Medicin, 1846.

† Archives Générales de Méd., Sept. and Oct. 1847.

‡ Müller's Archiv.

11. *Irritability of Muscles.*—Dr. Todd* shows that the difference in the excitability of muscles, in paralyzed parts, is due to the different state of the nervous force in the nerves of the paralyzed limbs. In one class it is in a minus, in the other in a plus condition, and in a third, is unaffected by the central lesion. Dr. Marshall Hall ascribes an increase of irritability to the muscles of a paralyzed limb.

12. *Contractions of Muscles.*—M. Prevost† states that "When a muscular fibril contracts, the folds lie close by the approach of the particles which constitute the fibrinous cylinders; these gravitating, as it were, in a longitudinal direction, occupy a less space, and thus determine the appearance of folds."

13. *Muscularity of Arteries.*—The muscularity of small arteries has been proved by experiments with galvanism, made by E. & E. H. Weber.‡ They show that arteries from $\frac{1}{17}$ to $\frac{1}{7}$ of a line in diameter, were contracted to $\frac{1}{3}$ their diameter, and, if the galvanism was continued, thus diminished only a single row of blood-corpuscles could pass through.

14. *Development of Muscle.*—M. Prevost§ thus describes the development of muscle:—"In the embryo of vertebrata the muscles of animal life have primarily the form of gelatinous cylinders, very transparent. Later the central part of these cylinders is organized in reddish filaments. These occupy, little by little, all the interior of the cylinders, and the jelly which surrounds them gradually thins, and becomes a fine envelop. In vertebrata, crustacea and insecta, the muscles of animal life differ much from those of organic life; whilst the fibre of the heart holds a middle place. Muscles of voluntary movement present regular cylinders, but those of the intestines consist of packets of straight juxtaposed fibres. In mollusca, the movements of which remind us of peristaltic action, both systems present fibres like those called organic."

15. *Development of the Heart.*—MM. Prevost and Lebert announce the following remarkable discoveries in the early history of the formation of the heart. In the chick there is a primitive heart,

* Med. Gaz., July 25th, 1847.
† Comptes Rendus, 31 Mai, 1847.
‡ Müller's Archives, No. 2, 1847.
§ Comptes Rendus, 22 Fevrier, 1847

divided into two; but in single-hearted animals this primitive heart is undivided. There exists, they say, a transitory bulb, divided in mammals and birds, and single in batracians and fishes. The permanent heart appears first beneath the transitory left ventricle as a permanent left ventricle. The permanent right ventricle forms later, beneath the transitory right ventricle. The transitory bulb is a part of the heart, different from the permanent bulb of the aorta, which is formed later. There are two primitive aortæ (as was observed by Serres). The permanent one is formed between these, which disappear, and the descending portion of the permanent aorta results from two short vessels which leave the branchial sinuses at the place where the primitive aorta are detached, and blend in front of the median line. The portion of the permanent aortæ, which curves on leaving the bulb, joins the descending aorta beneath the junction of its roots; and not, as is believed, at the level of the third branchial arch. And in the transitory bulb are formed two vessels which join to form the branchial vessel, from which the arteries of the branchial arches part.

16. *Theory of Respiration.*—Prof. J. W. Draper* thus describes the cause of the circulation:

Water will rise, in a capillary tube, to a certain height. Break the tube below this point and the water will rise to the top, but not flow over. Now suppose a rapid evaporation to ensue from the upper end of the tube, and the water from below will continue to rise and supply the tube. The same will occur if the liquid is combustible and burns, as in a lamp.

From these facts he deduces the following principle: That though ordinary capillary attraction cannot determine a continuous flow of liquid through a tube, yet there are many causes which may tend to produce that result. "If a given liquid occupies a capillary tube, or a porous or parenchymatous structure, and that, whilst in that tube or structure, changes happen to it which tend continually to diminish its attraction for the surface with which it is in contact, movement will ensue in a direction from the changing to the changed fluid."

The principle so stated he thus applies to the different systems of circulation in the body:

1*st.* To the Systemic Circulation.—The arterial blood contains

* London, Dublin, and Edinburgh Magazine, January, 1846.

oxygen; on reaching its final distribution in the tissues, it effects their oxydation, producing heat; and as it loses its oxygen and receives the metamorphosed products of the tissues, it takes the blue colour of the venous blood. Now contrast the relations of arterial and venous blood to the tissue. The former must have an intense affinity for these, since it can oxydize them; but the latter an attraction which is correspondingly less. Upon the principle stated above, therefore, motion will take place from the arterial to the venous side. The systemic circulation, therefore, is due to the deoxydation of arterial blood.

2*d*. To the Pulmonary Circulation.—Here venous blood reaches the walls of the air-cells, and, taking oxygen from the air, becomes arterialized. Now venous blood has a high affinity for oxygen, as is shown by its absorbing that gas; but when the change has taken place the affinity is satisfied. The change from venous to arterial blood, which takes place on the air-cells charged with oxygen, ought, upon these principles, to be accompanied by a movement from the venous to the arterial side. The pulmonary circulation, therefore, is due to the oxydation of venous blood, and ought to be from the venous to the arterial side.

3*d*. To the Portal Circulation.—Two forces are at work to drive the portal blood out of the liver into the ascending cava. The portal blood is acted on by the liver for the separation of bile. The affinities acting towards this end being satisfied, the residue of the blood passes over into the hepatic veins. Between the portal blood and the liver there is an energetic affinity, shown by the chemical decomposition which takes place. That change effected the residue forms the venous blood of the hepatic veins. The second force is after the blood of the hepatic artery, having served for the economic purposes of the liver, is thrown into the portal plexus. The pressure of the arterial blood in the hepatic capillaries upon this is sufficient, not only to impel it into the capillaries of the portal veins, but also to give it a pressure in a direction towards the hepatic veins. No regurgitation can take place backwards through the portal vein, upon the boold arriving from the chylopoietic viscera, because along that channel there is a pressure in the opposite direction, arising from the arterial blood of the aortic branches. The pressure, therefore, arising from the relations of the hepatic arterial blood conspires with that arising from the portal blood, and both together join in giving rise to motion towards the ascending cava.

4*th*. To the Placental Circulation.—The umbilical arteries take

the effete blood of the fœtus through their ramifications to the placenta, where it is oxydized from the maternal blood, this becoming deoxydized. The fœtal blood now returns along the ramifications of the umbilical vein, and finally is discharged from the placenta by that single trunk. This is a change like that effected in the adult lungs, as is shown by the blood of the umbilical arteries becoming brighter as it passes into the umbilical vein. This oxydation of the fœtal blood, by the arterial blood of the mother, causes movement to ensue on the same principles as in the adult lung.

17. *The Lungs.—Anastomosis of the Capillaries of the Lungs.*—Dr. Cammann* has given the results of a series of experiments, undertaken to show that the capillaries of the lungs do not anastomose. They are sustained, he thinks, by the pathological conditions observed in the organ. The absence of anastomosis admitted, many points in the physiology and pathology of the lungs, are easily explained.

1*st.* In pulmonary hemorrhage, the flow of the blood would be kept up continually if the supply was furnished through anastomosis, and no coagulation could occur to arrest it.

2*d.* In small abscesses, without false membrane to circumscribe the cavity, a continual flow of blood would occur.

3*d.* With a knowledge of this arrangement of the capillaries, we can understand the circumscribed character of pulmonary inflammation, congestion, apoplexy, gangrene, &c., as described by Bayle, Laennec, Andral, Barth, &c., and why inflammation here does not shade off from the centre, but is exactly circumscribed; and why we may even find spots permeable to air in the very centre of hepatized masses.

4*th.* Why the crepitous râle is often accompanied with respiratory murmur. And perhaps an explanation may also be furnished of the lobular pneumonia in children, and many other important pathological and physiological appearances.

18. *Theory of Respiration.*—Dr. George Owen Rees† offers the following theory of respiration:—"The venous corpuscles are known to contain fat in combination with phosphorus. This compound ingredient of the corpuscles, on coming in contact with atmospheric oxygen, during the respiratory act, is consumed, and combining with the oxygen forms the carbonic acid and water which are expired, and also phosphoric acid, which, uniting with the alkali of the liquor

* New York Journ. Med., Jan. 1847.

† Proceed. Roy. Soc., June 3, 1847.

sanguinis, forms a tribasic phosphate of soda. This salt, like many others, acts upon hematosin in such a manner as to produce the well known bright arterial tint."

19. *Lymphatics of the Lungs.*—Dr. Jajarvay* describes these very minutely, dividing them into plexuses and vessels, which are superficial and deep seated. Some of the vessels have swellings in different parts which he calls varicose; and in other parts are simple; these he calls capillaries. The peculiar structure and distributions of these are very accurately described. It is worthy of remark, he says, that the black matter of the lungs has its seat in the track of the vessels of the varicose plexuses, and thus the pattern of these is mapped out by the black substance. His injections have failed to show how the lymphatics of the lungs come into connection with those of the heart, and finally with the thoracic duct. He finds that, for the most part, ganglions seated about the root of the lungs receive the vessels, although he has noticed branches go directly to the thoracic duct, and in other cases, join the diaphragmatic, œsophageal, &c. The ganglions about the left bronchus also receive the lymphatics of the part which reach them after following the curve of the aorta.

20. *Liver.—Comparative Structure of the Liver.*—Dr. Joseph Leidy† has published his researches in this direction. "He was induced to make them public," he says, "under the impression that some of the facts presented may be new, or that, at least, the anatomy of the liver being presented in a somewhat new aspect, may be better understood than by the former methods of description." The paper has been prepared with much care, but does not admit of such condensation as would be necessary to bring it within our limits.

Before passing to other subjects the committee would here notice a remarkable paper by Professor Blake,‡ of St. Louis.

21. *On Isomorphous Relations.*—Dr. Blake has experimented on the influence of isomorphism, in determining the reactions which take place between inorganic compounds and the elements of living beings. The microscope has tempted investigators to depend too much on the morphological examinations of physiological questions: whereas, the law of isomorphism while determining the forms assumed by the

* Archives Gén. de Méd., Jan. et Fev. 1847.

† Am. Journ., Jan. 1848. ‡ Ibid.

different compounds of the same element, will throw much light on its relations with other bodies. And when brought in contact with other substances as reagents, we may arrive at a knowledge of its properties. Such considerations induced him to experiment on the properties of the elements of the living organism, by bringing these, while still forming part of the living animal, into contact with certain reagents derived from inorganic compounds. He submits a tabular view of the experiments, and deduces from them the conclusion that the reactions which take place between the elements of living beings and inorganic compounds, differ from what would be expected from a consideration of the ordinary chemical properties of the reagents employed.

But his results are not merely of a negative character. They point out a *new law*, that when the ordinary properties appear to lose their application, a new and more latent property of matter comes into play. The substances he has experimented with divide themselves into groups, each distinguished by peculiar reactions. Potash and ammonia agree in their phenomena. So of strontia, baryta, and lead, which influence the muscular system. Soda and silver agree very closely in their phenomena. A large family of substances, including lime, magnesia, zinc, iron, copper, manganese, nickel, and cadmium, produce similar effects, being distinguished from all other bodies by their action on the nervous system. Platinum, palladium, iridium, and osmium, agree in their reactions. Phosphorus, arsenic, and antimony, form a group. Silenium and sulphur act alike; as do chlorine, iodine, and bromine. These groups correspond with the chemical arrangement, according to isomorphous relations. Hence the law deduced, "that the physiological action of these substances depends upon some property they possess in connection with these isomorphous relations."

The exception to this law in the separation of soda and silver from the potash group, is only apparent: "for while the isomorphous relations between soda and silver are well marked, and also between potash and ammonia, it still admits of doubt, whether any well marked relations exist between the first two and the last two substances."

It will be seen from the table that the substances least injurious are those which exist in the body, or have isomorphous relations with some of its constituents, and the reverse. It will also be perceived, that there is a want of agreement between the chemical and physiological action of substances; an acid and alkali sometimes produce

similar effects: the analogy of action appearing to exist with substances of isomorphous relations to each other.

The next subject for the attention of the committee is

HYGIÈNE.

22. Their remarks upon this topic must be restricted to a few general observations. No disease, at the present time, is more worthy of our serious consideration than the fatal fever which, under different names, ravages so dreadfully the poor in Europe. A disease which, following the tide of emigration so steadily flowing towards our shores, has, latterly, become familiar to us here, spreading itself by its reproductive power, it will doubtless still further familiarize us to its presence. Against this fever the rules of hygiène are to be invoked as alone capable of enchaining its fearful and fatal progress.

Dr. Corrigan* has shown that a close connection exists between deficiency of nourishment and the occurrence and severity of fever, citing the history of epidemics in Ireland for a period of ninety-eight years—from 1728 to 1826. During this time there were eighteen years of epidemic, with every variety of weather and temperature, and resembling each other only in one particular—bad harvests and high price of provisions. He concludes from his facts, that epidemics of fever in Ireland depend, not on climate or season—as it has raged through wet and drought—heat and cold—nor upon cleanliness, ventilation, &c., nor upon contagion alone; but that as famine is the only invariable predecessor and companion of fever, we are justified in making out this condition as its great cause.

How far Dr. Corrigan's opinion is correct, the committee will not inquire. There is ample proof, however, that the emigrants are insufficiently supplied with food and water. It is equally certain that their quarters on ship-board are deficient in ventilation and cleanliness. Now these are matters so easily regulated by law, that it seems incumbent on us, who are, in some measure, the guardians of the public health, to set ourselves to the task of furnishing all requisite information. But to this duty the committee cannot address themselves. They will only mention, as sources of information, the

* Fever and Famine, as Cause and Effect, 1845.

article by Dr. D. M. Rees, in the New York Journal, Sept. 1847, and others of a similar character.

23. *Malaria.*—Marchetti* has advanced an opinion on the origin of malaria, which is only noticed by the committee because it is so different from what the experience of our southern country affords on the same subject. He considers salt marsh exhalations as more insalubrious than those from fresh water. The sea marshes may be made healthy, he thinks, by keeping out the salt water. He supposes, in order to explain this, that marine vegetables putrefy quicker than those of fresh water.

Rigaud de l'Isle† detected an unctuous animal matter, of a cadaveric odour, in marsh air, thus confirming the experiments of Thenard and Moschetti.

Levy, in his *Traité d'Hygiène*,‡ supports the organic nature of miasmata, attributing its noxious influence to that, and not to carburetted hydrogen.

Dr. J. C. Nott has ably advocated the same views in several of the Journals of this country, with especial regard to the originating cause of yellow fever. In Dr. Lewis' Medical History of Alabama,§ there is much very valuable matter on this subject; but the committee cannot further notice, here, the valuable contributions which this gentleman has made to the history of southern medicine.

GENERAL PATHOLOGY AND THERAPEUTICS.

24. These subjects come next in order, and, in discussing them, the committee will be under the necessity of exercising a privilege of selection, as the materials are too abundant for all to be noticed.

The blood itself, the great vehicle of morbific matter, deserves the committee's first attention.

Some of the observations they have selected date a little previous to the year just passed, but they are sufficiently important in themselves to entitle them to notice; and are, besides, only now coming before the public in a more accessible form. Simon‖ gives the following division of the diseased conditions of the blood: 1st, Hyperinosis; 2d, Hypinosis; 3d, Spanæmia; 4th, Heterochymeusis.

* Noticed in British and Foreign Med. Rev., Jan. 1846. † Ibid.

‡ Traité d'Hygiène, Paris, 1845.

§ New Orleans Jour., 1st, 2d, and 3d Nos., 1847.

‖ Animal Chemistry, translated by Day, 1845.

Hyperinosis is excess of fibrine, and therefore characteristic of inflammation. *Hypinosis* defect of fibrine, as in ataxic fevers, passive hemorrhages, and cachectic conditions. *Spanæmia* when the blood is poor in solid parts, particularly fibrine and corpuscles. This condition of the blood is found, according to Simon, in two kinds of diseases—where the chylopoietic viscera are deranged, as from bad food, imperfect chylification, protracted action of noxious atmospheric or other agents, (as poisonous metals,) and inordinate using up of the circulating fluids: the other, from a peculiar state of the atmosphere, the first impress of which is made either directly upon the blood, or indirectly through the medium of the nervous system—as adynamic fevers, scurvy, purpura, &c. *Heterochymeusis* where there is a heterogeneous substance in the blood—as in diabetes, Bright's disease, purulent diathesis, &c.

25. MM. Bequerel and Rodier published their researches on the blood in the *Gazette Médicale* and *Encyclographie des Sciences Médicales*, 1845, establishing the following general deductions from the analysis of the blood of patients labouring under most of the more common diseases. 1st. The simple fact of the development of morbid action of any kind changes the composition. 2d. Bleeding changes the composition of the blood, in proportion to the repetitions, diminishing the blood-globules and albumen, but not the fibrine—agreeing in these observations with Andral, Prevost, and Dumas. 3d. Plethora is an increase of the mass of the blood, and not of certain of its ingredients only. Differing from Lecanu, Andral, and Gavarret. 4th. Diminution of the blood corpuscles (anæmia), frequently occurs in diseases, either as an essential character, a complication, or a sequence. 5th. Inflammation modifies the blood chiefly by increasing the fibrine. Corresponding with Simon, as just quoted, and others. 6th. Fibrine may be diminished, and perhaps altered, from insufficient food, and other unwholesome agents. 7th. If a secretion is suspended or diminished, its chemical constituents remain in the blood. 8th. The albumen is diminished in the following diseases:—1st, Bright's disease; 2d, affections of the heart, with dropsy; 3d, puerperal fevers. They think they are the first who have established the effect of disease in diminishing the proportion of globules; the diminution of the albumen in all diseases, especially the phlegmasiæ, where it is in inverse ratio to the increase of fibrine; the excess of fibrine in many cases of chlorosis; and the diminution

of the albumen of the serum in diseases of the heart, with dropsy, and in puerperal fever, as well as in Bright's disease.

26. *Anæmia.*—This condition of the blood may, according to Trousseau, who has made known his views in the *Encyclographie des Sciences Médicales*, August, 1845, occur in different pathological conditions, and require very different therapeutic treatment. That occurring from simple loss of blood differs from chlorosis, in which the constituents of the blood are changed, and, as a consequence of this altered condition of the blood, changes are effected in functions and even in the structure of organs. Another form coexists with the cancerous and tubercular diatheses, and with diseases of the kidneys, &c. When these diatheses exist, tonic treatment is improper, for by this treatment the disposition to the formation of tubercles is increased; for these he considers as of inflammatory origin and nature. The anæmic and tubercular states, he considers as antagonistic, hence to remove the latter is to aggravate the former. Tonics, therefore, ought not to be employed in the treatment of chlorosis, lest by exciting inflammation, they may favour the formation of tubercles.

27.—Beau* admits two forms of anæmia. One from direct loss of blood, when all the constituents of the blood are lessened in quantity. And another which may be spontaneous or a consequence of the former, in which the quantity of the serum is relatively increased, so that the mass of the blood may be actually greater that usual. This he calls "Serous Polyhœmia." This increased quantity of thin blood causes the nervous symptoms in chlorosis and the "Arterial Bruit;" which is not heard in the other form. In these views he is sustained by Duchassaing, in the *Annuaire de Médecine et de Chirurgie*, 1846. This view of the pathology of anæmia (taking, as he remarks, chlorosis as the type,) is held by Dr. Alfred Stillé, in his work on *General Pathology*,† just from the press. "There are, in fact," he says, "two sorts of cases comprised under the head of anæmia. They have, in common, the anatomical character, deficiency of globules; but in one the mass of the blood is augmented, in the other diminished. The former often accompanies chlorosis, the latter results from frequent and profuse losses of blood, or other fluids of the economy, the slow poisoning of saturnine emanations,

* Archives Gén. de Médecine, Aug. 1845.

† Elements of General Pathology, by Alfred Stillé, M.D., 1848, p. 423.

protracted intermittent fevers, scanty and unwholesome food, living in dark and ill-ventilated places, and in general whatever slowly exhausts the system."

28.—This same condition of the blood, *aglobulia*, as he denominates it, is considered, by M. E. Marchand,* as a common diseased condition, and that its distinguishing mark is disturbance of the nervous system. The quantity of blood globules may fall from $\frac{125}{1000}$, the normal state, (Becquerel and Rodier make it about $\frac{141}{1000}$ in the male and $\frac{127}{1000}$ in the female,) to $\frac{43}{1000}$. Andral has seen it as low as $\frac{24}{1000}$, and Dr. Frick $\frac{14}{1000}$.† The remedies consist, continues Marchand, in such diet as will bring back the quantity of blood-globules. Animal food, wine, iron bitters, exercise in the open air and in the sunshine, residence in the country, sea bathing, &c.

29.—In the valuable article of Dr. Charles Frick, of Baltimore, (quoted above,) from the *American Journal*, January 1848, "On the relative proportions of the different organic and inorganic elements of the blood in different diseases;" he states that "the quantity of the chlorides and phosphates of soda and potash is dependent, not on the particular disease, but upon the season of the year in which the examination is made," being higher in winter and spring. The difference, he thinks, may be accounted for by the increased exhalation from the skin, and explains the prevalence of the idea that there is a diminution of these salts in essential fevers. His results, in regard to organic elements, agree with those of Andral. The iron in every case, without relation to the disease, bearing almost an exact proportion to the quantity of the globules, and the average in nine cases of different kinds of inflammatory disease, was almost exactly that of health. In tubercular cases, while the tubercles are crude, the fibrin was about normal, in others his results were similar to those of Andral. The albumen was always above the normal quantity, as a consequence of the imperfect assimilation in a tubercular diathesis. Iron and chlorides unchanged. In crude tubercle the lime was above and the phosphates below, while in softened tubercle this was reversed. In remittent fever the fibrin is above, in intermittent below. In remittent the globules are increased. He has not found the chlorides and phosphates diminished, as asserted by Stevens. In typhoid fever he has found the organic

* Monthly Journal of Medical Sciences, Nov. 1847.

† American Journal, January 1848.

elements, as stated by Andral; lime below the normal standard. In typhus the globules were more than in any other disease, not excepting cerebral congestion or apoplexy. Lime was diminished in some cases, and increased in others. Chlorides plus, phosphates minus. Urea and uric acid in some of the cases. But our limits prevent us from following Dr. Frick through his valuable paper. His results differ somewhat from those of preceding observers, but in many points they are confirmatory.

30. *Cyanosis.*—The journals contain some elaborate treatises on this subject. The committe have not space to follow out the subject, and only state that Drs. Moreton Stillé, Cheevers, and others, support the opinion that the disease depends not on a mixture of venous with arterial blood, resulting from mal-formation of the heart, as was formerly supposed, and is still maintained by Dr. Meigs, but upon impediments to the circulation in the lungs or pulmonary artery.

31. *Condition of the Blood in Scurvy.*—MM. Becquerel and Rodier* give the results in five cases of scurvy, as follows:—1*st.* The blood is not in a dissolved state, but coagulates firmly, and the serum is uncoloured by globules. 2*d.* The density of the defibrinized blood was in all cases below the normal standard (1057). 3*d.* The density of the serum is diminished (1027). 4*th.* The globules are always diminished (127). 5*th.* The fibrin is never diminished and is sometimes increased. 6*th.* The organic matter of the serum of which albumen is the principal part, is notably diminished, while there was a large proportion of water. 7*th.* In no case was there any augmentation of the saline or alkaline matters. These results are in direct opposition to formerly entertained opinions.

32. *On the Causes and Treatment of Scurvy* the Journals furnish us much valuable matter. Dr. Shapter and Dr. Lonsdale† consider the absence of the potatoe as the "*fons et origo mali.*" They adduce much proof from their own experience, and that of others, in confirmation of their views. As a general rule, the statement may be made, that wholesome diet requires a supply of succulent vegetables, with a portion of vegetable acid. In the potatoe, tartaric acid exists, and to this is due its antiscorbutic properties.

* Archives Générales, Juillet 1847.

† Prov. Med. and Surg. Journ., and Med. Times, 1847; Edin. Mon. Jour., 1847.

33. Dr. Bellingham* has announced similar views. "It is clear," he says, "therefore, that the cause of the present epidemic may be traced to the absence of the potatoe from the dietary of the poor, and it is equally clear, that a diet of bread, with or without meat, or broth, is incapable of preserving the body in health, and tends to develop scurvy." Facts, he says, upset the theory of Liebig, that, as carbon, the principal constituent of fat, is abundant in potatoes; whereas, the constituents of bone and muscle are found in peas, beans, oats, barley, rye, wheat, &c., more plentifully; that, therefore, these latter are more fit for a labouring population as articles of food. "Indeed," he says, "if all we read about nitrogenized and non-nitrogenized articles of food were correct, the potatoe would have fallen into disrepute long since." Whereas, "for more than half a century, it has been the sole food of the great majority of the peasantry of the country (Ireland); and we believe a healthier, hardier population was to be met with in few countries—contrasting sadly with their present altered aspect, after a diet for some months composed of more highly nitrogenized substances."

34. Dr. Ritchie† also considers "deficiency of potatoes and succulent vegetables as the most efficient cause." In those forms of the disease in which the superadded symptoms are not so severe as to call for the undivided or the especial care of the physician, his treatment was diet regulated on principles deducible from his views of the causes of the disease, and the use of lemon juice or citric acid.

35. Dr. Curran‡ takes similar views. "In four-fifths of his cases, at least, the diet had been bread, with tea or coffee; and in no single instance could he discover that green vegetables or potatoes had formed part of their dietary." He treated the disease with lemon juice, nitrate of potash, and vinegar.

36. Dr. Christison§ agrees with all the other writers, that error in diet is the cause of the disease, but considers that the indispensable article is milk.

37. Dr. Foltz, in his excellent report on the scurvy in the United States squadron in the Gulf of Mexico, printed in the American Journal, attributes the disease to the absence of vegetables; and

* Dub. Med. Press, 1847.
† Edinburgh Monthly Journal, 1847.
‡ Dublin Quarterly Journal, 1847.
§ Edinburgh Monthly Journal, 1847.

refers to the change of the ration law, by which the one day for vegetable food was taken away, as a cause of its appearance in the East India squadron. Dr. Dodd, of the Potomac, suggests that the inferior quality of the salt used in curing the meat was one cause. Dr. Foltz sums up the causes of the disease in the Mexican Gulf squadron thus: "Protracted cruising between the tropics, unwholesome and innutritious salt provisions, vitiated atmosphere on board, resulting from imperfect ventilation, at times a reduction in the quantity of water; and, in the crew of the Raritan, the despondency and disappointment resulting from being kept on board ship after the expiration of the time for which many of the crew had shipped." He observes, in regard to the treatment, that it consists in supplying the system freely with protein, by giving freely such vegetables as most abound in it. The vegetable acids and potatoes are the chief means. The basis of the potatoe being starch, he suggests experiments with that substance. He confirms the experiments of Becquerel and Rodier in not having found the blood dissolved.

38. *Spontaneous Coagulation of the Blood in the Veins in Cachectic Diseases.*—The next condition of the blood to which the committee would draw attention, is described by M. Bouchut. This author attributes the pain and swelling of a limb in the latter stages of cachectic disease to coagulation of blood in the veins, not from inflammation of the vein, but from something in the condition of the blood itself. His opinions are founded on the cases of three phthisical women in the last stages of marasmus. A woman with calculous nephritis, which had destroyed the tubular structure of the kidney; a man with encephaloid disease of the liver; a female reduced very low by typhoid fever; a boy ill with severe burn, and others suffering from great prostration of the vital powers. The lower extremities are the usual seat of the disease, but sometimes the veins of the arm and neck, and the pulmonary arteries, and the veins of the liver as described by Bouillaud and Baron; and the sinuses of the brain as seen by Abercrombie. In forty-four cases out of fifty-one, Bouchut saw it in the lower extremities. A remarkable thing is, that the veins usually implicated are those most distant from the seat of the disease. The coagulum is at first a dark clot, having the shape of the vessel, but not adhering. Adhesion depends on phlebitis. After fifteen or twenty days the coagula lose their colour, become tough, sometimes even cartilaginous or calcareous. The symptoms are local, and unconnected with the chronic disease.

There is pain in the thigh or ankle, followed in a few days by œdema. The skin is of a dull white colour, as in phlegmasia dolens.

Diagnosis.—It may be known by sudden pain and rapid œdema, coming on in the latter stages of a chronic disease.

Prognosis.—It is not dangerous in itself, but becomes a serious complication in the latter stages of phthisis or cancer. If it terminates favourably, the vein becomes again pervious by absorption of the coagula, or the collaterals enlarge to carry on the circulation.

Treatment.—Narcotics internally, and fomentations externally.

39. Thus far, the committee have considered a few of those cases in which the blood is diseased by a change in the relative proportion of natural elements. Another source of disease, is the admixture of foreign substances with the circulating fluids. "One of these," says Stillé (page 428), "is sugar, which has, however, been detected in one disease only, diabetes mellitus. Pus is of more common occurrence in the circulating fluid, and is either generated within the vessels or enters them from without."

40. *Pyohæmia. — Purulent Infection — Phlebitis.* — Sedillot* thinks, that in order to produce the symptoms usually attributed to this disorder, the pus must be sanious or unhealthy, considering it to depend on gangrenous liquefaction of the parts; and accounting for the gangrene from strangulation caused by infiltration of pus. A difference of opinion has existed, as to whence the pus comes which is found in the veins. Some have supposed that it was derived from the inflamed surfaces of the veins, others that it is a change of the blood itself. In support of the former, Vogel's discovery of the transition of epithelium cells into pus-globules, is cited as analogy; and Henle's discovery, that the primary cell may be developed into other forms either normal or anormal. Gendrin believes that the changes from the blood-corpuscle into the pus-globule, may be seen under the microscope, and Donné confirms him. Drs. Bennett and Craigie mention two cases of purulent infection† in connection with disease of the spleen, where pus was formed in the blood independently of any local purulent collection. Dr. Budd, in his "*Diseases of the Liver*," 1845, objects to the opinion that metastatic abscesses are formed by pus, brought in the blood from the seat of the primary suppuration and deposited in the new seat by a kind of aggregation,

* Annales de Chirurgie, tom. 7.

† Edinburgh Medical and Surgical Journal, 1845.

because the pus-globules being twice as large as the blood discs, they could not escape while the others are retained. He thinks it is proved, therefore, that hepatic and other abscesses following operations, blows, &c., arise from inflammation of a vein; the globules of pus mingling with the blood are conveyed to the spot, and being arrested there, cause inflammation and abscess. Hasse, in his anatomical description of the "*Diseases of the Organs of Respiration*," 1846, and Rayner coincide in this view. Lebert attributes them to a general pyogenic diathesis. From a review of the authorities, Ranking, in his *Retrospective Address*, thinks the old idea of pus being brought from an old abscess, or from a small venous inflammation, to form those large purulent accumulations which are sometimes met with, is untenable. He thinks Lebert's evidence conclusive, that the pus is the result of inflammation in the place where it appears; and with Budd, and Henle, that the cause of the inflammation is the irritation of the globules of pus, conveyed with the blood from the original seat of suppuration.

41. The next subject to which the committee would turn their attention, is one of paramount importance in pathology. They allude to certain productions anormally developed in the system. These productions deposited, and growing in the natural tissues, at first, to all appearance wholly inert and inoffensive, soon increasing with such rapidity both in size and number, as to present an aspect entirely different from their early harmlessness, are in the end among the most deleterious and irremediable disorders of the human frame. "One feature," Dr. Stillé* remarks, "is common to them all; a tendency to softening, which induces a greater or less destruction of the tissues in which they are deposited."

In their origin, M. Baron† considers all heterologous formations to be identical, believing (with Andral in respect to tubercle) that they originate in a perverted action of ordinary secretion, by which instead of a normal cell, one is formed which goes through the phases of diseased development exhibited in the different varieties of accidental tissue. The diseased cell is, in its first stage, identical in every species of morbid development, whether cancer, melanosis, tubercle, false membrane, or hydatid. He differs from all those who attribute the various forms of accidental tissue to low degrees of inflammation. He does not decide what it is which gives the cell its

* Work quoted. † Gazette Médicale, March, 1845.

peculiar characteristics in the different morbid structures. The remote cause is an inappreciable modification of the blood.

42. In regard to cancer cells, Dr. Walshe, in a work on the "*Nature and Treatment of Cancer*," 1846, announces opinions similar to those of M. Baron. The blastema or generating fluid of the cells is always the same, and the evolution of cancer cells is the same as that of healthy cells in ordinary nutrition. Both processes are equally obscure; the formation of the enveloping cell preceding, he thinks, the nucleus. The elements of cancer he shows to be principally granules, nucleated cells of varied forms, free nuclei, and a fibrillar substance associated with a fluid blastema. The difference between the caudate and the spherical cell he considers as merely accidental, and depending on compression; hence the former is not to be taken as diagnostic of malignant structure; an opinion also held by Vogel. A more characteristic mark of the cancer cell, he thinks, is the presence of an opaque body in the wall of the cell which he calls the parietal nucleus. The cell may germinate either in the interior of the vessels, in the substance of their walls or in the intervascular spaces. He differs from those who think they may be developed in the blood itself. The cell once formed, may increase either by endogenous generation, or the development of one cell within another, or by external development. The blood-vessels are of two kinds, one set formed "*de novo*," in which the blood has an independent oscillatory motion, the other by extension of adjacent vessels. In the treatment of cancer, he considers the whole list of anodynes as only palliative, and places his entire reliance on the use of iodide of arsenic in conjunction with compression.

43. M. Sedillot says the cancer cell may attain ten times the diameter of the blood globules. It originates in an amorphous liquid (blastema) in the form of nuclei (cytoblasts), which change to nucleoli (small cells) and subsequently attain their full development; or in a pre-existing cell (endogenous generation) in which are seen nuclei and nucleoli, which escape by dehiscence (breaking of the mother cell) when they come to maturity. The other elements found in cancer, are cellular and fibrous tissue, fat, granular globules, melanosis, blood, pus, crystals of cholesterine, &c. Fusiform bodies, or cells in course of fibrillous transformation are very common. Cancer depends on an original (hereditary) or acquired predisposition, which cannot be recognized before the appearance of the

disease. Local irritations, injuries, &c., may excite cancer in predisposed individuals.

44. Cancer does not affect the sexes indifferently. Mr. Wilkinson King* gives as the result of post-mortem examinations made at Guy's Hospital, the extraordinary announcement that one-half of the females who die about the age of 44 are subjects of cancerous formations, and of males one-eighth only.

45. *Tubercle.*—Dr. Burrows, in treating of the subject of tubercular pericarditis, before the Royal Medical and Chirurgical Society, February 23d, 1847, discusses the general question of the connection of tubercular formation with inflammation. Differing from Laennec and Rokitanski, and agreeing with the more prevalent opinion of modern writers, he considers these deposits to be independent of inflammation, and in fact to be the cause of it. The existence of tubercular pericarditis, though difficult to be recognized, may be suspected in cases where the patient having been under the influence of exciting causes of tubercular cachexia, exhibits symptoms of incipient phthisis which the auscultatory signs do not confirm. A similar view is taken of tubercular peritonitis.

46. This view of the connection of tubercle and inflammation, seems upon a comparison of the modern authorities upon the subject, to be pretty generally entertained. Dr. William Addison† stated that he found tubercles in about one-third of the apparently healthy lungs he had examined. The material deposited in the air cells of the lungs in pneumonia, bears the same comparison to tubercular matter, he thinks, that new pus does to old. The same class of objects,—incoherent colourless cells, molecules and granular matter—appears to constitute the material in both cases, in hepatization or consolidation of the lungs from inflammation, and in consolidation from tuberculous matter; and in both cases, also, the material takes primarily the shape of the air cells in which it is seated. "Were we to imagine," he continues, "the fluid element of the old pus removed or absorbed, the remaining solid matter would be, in my opinion, tuberculous matter; the colourless elements of blood, pus, and tubercle passing by imperceptible gradations into each other."

* Med. Gazette, 1845.

† Provincial Medical and Surgical Journal, April 7, 1847.

47. Dr. Baumgartner* describes tubercle as a species of false membrane, analogous in all respects in the formative process to the development of the ovum. The granular bodies are analogous to those of the yelk they resemble; out of them, as out of the yelk, formative globules are developed, and then these latter change into cells. Here, however, the analogy ceases. The cells of the healthy process unite together to form different tissues; the pus cells remain in this low stage of development.

48. According to Dr. Robert M. Glover, in his Fothergillian prize essay, for 1846, the ordinary element of tubercle is the granular corpuscle, described by several writers, which constitutes almost the entire mass of some tubercles. The size of the corpuscles varies from about that of a blood globule to the $\frac{1}{10,000}$ of an inch. They are yellowish, with occasionally spots in their substance which may be nuclei. Mixed with these are the following elements, which may be altered cells or new formations; epithelial scales variously altered; fat globules; crystal of salts; portions of destroyed tissue sometimes assuming singular shapes; cells apparently belonging to the old tissues, and large granular and corpuscular masses of the most irregular forms. The corpuscular granules which constitute the essential element of tubercle may arise from an error of nutrition.

49. M. Bouchardat† has given his views of the nature of phthisis and its relation to diabetes. He thus describes the formation of tubercle. It is formed by the reunion of particular globules, which have no existence in the animal economy in the healthy state. They are developed spontaneously in the bodies of animals placed under certain circumstances. They unite and coalesce, and become destroyed by giving rise to secondary products and to fresh organized globules. The circumstances under which they are developed, are, when the system is reduced by bad nourishment, or by excessive continued and unrepaired loss of some fluid, essential to the animal economy, such as lymph and serum from too abundant suppurations, or waste of the spermatic fluid from venereal excesses, &c. Diabetes may in this way be a cause of tubercle. In patients with sound lungs, labouring under diabetes, we may predict the formation of tubercle. Now, as we know the nature of diabetes, we may in this particular case, arrive at a positive etiology of tubercular affection, and state it thus:—1st. Perversion in the digestion of feculents;

* British and For. Med. Rev., July, 1847. † Med. Times, May 1, 1847.

2d. Presence of glucose in the blood; 3d. Elimination of glucose by the kidneys; 4th. Replacing the glucose eliminated by the slow destruction of the fundamental principles of the blood, the muscles, and the other organs.

50. Dr. McDowall* discusses the subject of tubercular consumption. He asks:—1*st*. What is the source of tubercles, and what condition of the solids or fluids of the body is pre-requisite to their origin and growth? 2*d*. Are tuberculous deposits removable? If so, by what process? 3*d*. What therapeutical resources have we for promoting the removal of tubercles?

1*st*. "The source of tubercle," he answers to the first question, "is scarcely questionable." It is the albumen of the blood. The condition prerequisite is increase of albumen. "The origin and growth of tubercles are the result either of effusion or of secretion of albumen into the solid tissues." "Consumption, like dropsy, is of serous origin; consumption being the result of a degeneration and effusion, or morbid secretion, of one constituent of the serum; dropsy of the other; the one the result of an albuminous, the other of an aqueous effusion."

2*d*. Are tuberculous deposits removable? This is dependent on the question, *can albumen be absorbed?* To this he answers, that "we have the best possible evidence that albumen can be, and is being, absorbed during every moment of man's existence."

3*d*. What are the therapeutical resources for promoting the removal of tubercles? Our most reliable resource for effecting the removal of tubercle must, therefore, mainly consist of such articles as best promote the transformation of albumen into red globules. Iron, alcohol, naphtha of wood, iodine, animal food, common salt, (the most efficient of all, as it increases the globules, as seen in the scurvy,) and all such treatment as is apt to bring the system into a condition such as it is in the scurvy.

51. The researches of Rogée and Boudet, in Paris, and J. Hughes Bennett,† in Edinburgh, prove that the lungs may cicatrize, and the patient recover, even after the formation of large ulcers in the lungs.

52.—Dr. Willshire‡ thus describes the relation between scrofula

* New York Journal of Medicine, Jan., 1848. † Monthly Journal, Oct., 1847.
‡ Medical Times, April 10, 1847.

and tubercle:—1*st*. In a scrofulous individual there is a morbid state of the blood, and one of the most usual tendencies of such a state of the circulating fluid is, that during the nutrition of organs, or what is called by physiologists the organic assimilation of tissues, tubercle, as a perversion of such act, shall be formed. 2*d*. It is equally a law attendant upon this condition of the blood, that inflammation of a specific or peculiar character, often proceeding to exudation, to suppuration, or ulceration, is very liable to attack particular portions of the body. "Now," says he, "you will observe that I think both a specific inflammation and the deposit of tubercle evidences of scrofulous disease—in short, that they are the disease."

53. Dr. J. B. S. Jackson,* of Boston, has given the results of microscopic and chemical examinations, made by Dr. John Bacon, Jr., of *melanotic matter* in a case treated by himself. The tumours were of two kinds, black and light brown. Sections of the brown tumours appeared, both by reflected and transmitted light, composed of coarse grains with indistinct fibres, a few roundish groups of regular black granules, apparently enclosed in cells, scattered throughout the mass. The colour was given by a brown colouring matter irregularly diffused. Pressure forced out a small quantity of colourless viscid fluid, accompanied by vast numbers of transparent oil globules, of every size, readily uniting from contact by pressure.

Diffused in water, a few black granules, and immense numbers of semi-transparent cells, of various forms and sizes, not distinguishable from the cancer cells, were exhibited. These were best seen when the fat had been removed by boiling in ether. Many of the cells have distinct nuclei and nucleoli; some have several nuclei.

The shapes vary, some being caudate, others fusiform, oval and nearly round. Sometimes the wall of the cell was visible and very thick. The cells could be traced from the edges into the mass, producing the granular appearance. Sections of the black tumour afforded oil-globules mixed with a viscid fluid, (as in the brown,) with great numbers of small irregular granules, perfectly black, which were isolated or in groups, contained in cells. They resembled the pigment granules from the eye of an ox. There were cancer cells, but not as distinct as in the brown, and a few fibres. The colour of the black was not changed by boiling in ether, while the brown lost its colour; this being due not to pigment granules, but to brown

* American Journal of the Medical Sciences, April 1848.

colouring matter soluble in ether. The fat was probably contained in the cells, as it was not seen till compression was used.

54. *Typhus-material* has been described by Rokitanski, Vogel, Engle, Gönsberg and others, as an effect of inflammation in the solitary and aggregate glands of the small intestines deposited in the submucous tissue near the glands, the membrane itself, at first, remaining sound. It is found also in the large intestines, especially near the cœcum. It is seen in two forms, fluid and solid, usually combined. The fluid is viscid and opaque, and deposits epithelium cells and phosphatic crystals. After its deposit it is converted into a brownish slough,* which separates and leaves the typhus ulcer.

55. Dr. J. Hughes Bennett† states that he has found this typhus deposit in ten out of sixty-three cases in the spleen, and in a few cases in the fine bronchial tubes of the lungs. The typhoid ulcer of Bretonneau, Louis, Cruveilhier, &c., he found in nineteen cases out of sixty-three of typhus. The principal seat of disease in these cases he found to be the spleen, lungs, and intestines. The brain did not participate much in the disease. Typhus deposit he describes as "a yellowish or flesh coloured exudation, sometimes passing into a brownish colour from the admixture of more or less blood. At first of tolerable consistency, it rapidly softens. In parenchymatous organs it may be absorbed or resolved, as in the lungs, spleen, and mesenteric glands, or produce ulceration or gangrene; leaving cicatrices, with puckering and induration, if the patient recovers. On mucous membrane it sloughs off, leaving a round or oval ulcer which is characteristic; this may cicatrize or perforate the gut. The microscope shows a number of roundish or irregularly shaped corpuscles, about one-hundredth of a millimetre in diameter, containing several granules, with a nucleus about five-hundredths of a millimetre in diameter. They are conjoined with numerous granules and molecules, which become more abundant as the process of softening advances. In the mesenteric glands a higher degree of cell formation takes place. The cells are about fifty millimetres in diameter, with from two to six, and even more nuclei, which become very distinct on the addition of acetic acid." The pathology of the disease, he thinks, consists in a primary alteration of the blood from the peculiar miasm or poison causing typhus fever.

* Ranking's Retrospective Address.

† American Journ., Jan. 1848, p. 242.

56. The subject of *typhus fever* being thus introduced, the Committee will here bring forward what they have to say on that subject. Several deeply interesting questions are warmly discussed in the Journals; one or two only of these can be touched upon, and the committee regret that they must necessarily so much restrict themselves as to leave it quite out of their power to do the subjects justice. The first they will notice is, "*The identity of Typhus* and *Typhoid Fevers.*" That typhus and typhoid are but different names for the same disease, viewed under different circumstances, has lately been maintained with much ability by M. Gaultier de Claubry. A discussion took place in the French Academy, in which M. Rochoux opposed the views put forth by G. de Claubry, and maintained that typhus was contagious—typhoid not. That typhus attacks all ages, while typhoid generally occurs between the ages of fifteen and forty. That delirium and skin eruptions exist in typhus and not in typhoid. That typhus lasts from ten to fifteen days—typhoid from twenty to thirty. All these objections were ably refuted by a writer in the *Dublin Journal;* but, as coming more within the letter of their instructions, the Committee will turn to American authorities. In a notice of the last edition of Professor Bartlett's excellent work on fevers, in the March number of the *Charleston Medical Journal and Review*, the editor takes a different view of the subject from the author, and has brought forward, in a condensed form, a mass of evidence in support of his opinion, which can scarcely fail to carry conviction with it. After a searching comparison of all the symptoms of the two diseases as they have been described by the long list of authors who have written on the subject, Dr. Gaillard arrives at the conclusion, that no single one of them is exclusively met with in one form of the disease alone. On the contrary, every single symptom embraced in the whole range of those which make up the physiognomy of both the forms of disease, are found in the descriptions of each. The more or less gradual approach of the febrile symptoms—the degree and kind of heat—the peculiarities of the thoracic symptoms—the mode of approach, duration, and kind of nervous symptoms—the circumstances under which the diseases originate—the abdominal symptoms, especially the diarrhœa and hemorrhage, and the time when these come on—the grouping of the symptoms—the cutaneous eruptions—the abdominal lesions—the causes, prognosis, and treatment—all bear out Dr. Gaillard fully in his view of the real identity of the two diseases. They sustain the idea that these are, in fact, but one and the same disease, only modified by

circumstances; and differing not more widely from each other (if, indeed, as much) than the different forms of remittent and malarial fevers. Yet no one has undertaken to separate these farther than as varieties of the same class. "Gaultier de Claubry," he remarks, "has satisfied Louis that typhoid fever is identical with the typhus of camps and jails." Camp and jail fevers have always been ranged by English writers as true typhus—petechial typhus. "If this be true," he continues, "then, as it has been proved by Gaultier de Chaubry that camp fever is nothing more than typhoid fever, things equal to the same thing are equal to each other, and the typhus and typhoid varieties of continued fever are one and the same disease, and have the same geographical range." "As regards duration, the typhoid variety of continued fever seems to be more protracted than typhus, owing probably to the fact that the complication of intestinal inflammation is more common in the former than in the latter. Typhus is primarily a more severe disease, and terminates more rapidly either in death or convalescence." The views so forcibly put forward in the article just quoted from, seem fully sustained by the history of ship fever in Philadelphia, as related by Drs. Condie, Benedict, and Bell in the *Transactions of the College of Physicians*, and also by that given of the same disease in New York and Boston by numerous writers in the New York and Boston Journals.

57. The next form of fever to which the Committee would turn their attention is *yellow fever*. Several interesting and important points in the history of this disease are discussed at much length, and with great ability in the Journals of the past year. One of these is the identity or non-identity of yellow and periodic fevers. Dr. J. C. Nott, in the American, Charleston, and New Orleans Journals, maintains the opinion, which has long been held by Dickson and others in Charleston, that these forms of disease are essentially distinct. Some able articles on the subject in the *Medico-Chirurgical Review*, July and October, 1847, take the other side, which is also maintained by Dr. Lewis in his *Medical History of Alabama*, published in the May, July, and September numbers of the *New Orleans Journal* for 1847. Dr. Nott remarks, that there are sometimes remissions, owing to flagging of the heart under the deadly effect of the poison; but they are not characteristic. In the worst forms of the disease, the fever is sometimes altogether wanting. During an epidemic of yellow fever, intermittent and remittent fevers may change their type and terminate in yellow fever.

Or the system may be under the latent influence of marsh malaria at the time an attack of yellow fever breaks out. This is a complication well calculated to obscure the subject, since these influences may remain dormant in the system for years; British writers say as long as twenty.

Dr. Kelly* defines yellow fever "a distinct form of continued fever, consisting of a single paroxysm, varying in duration but without any true remission." He recognizes a consecutive fever, the result of derangement of the secretory functions—visceral obstructions—chronic inflammation, &c.; and, therefore, a true epiphenomenon. This has misled writers into describing the fever as intermittent: Dr. Lewis, in the article quoted, maintains that yellow fever may be intermittent, remittent, and continued.

58. With regard to the nature of black vomit, Dr. Nott has brought forward strong proof in favour of the opinion, that it is the production of extravasated blood acted on by an acid, though he has not ascertained what that acid is. As a singular coincidence with this opinion of Dr. Nott, it may be here stated that Dr. Golding Bird attributes the green colour of the stools in infantile diarrhœa to blood extravasated slowly, and acted on by the gaseous and fluid secretions of the bowels, and not to bile.†

59. As much uncertainty exists as to the causes of yellow fever as any other part of its history. Dr. Nott maintains its animalcular origin. Dr. Harrison‡ expresses the opinion that yellow fever is produced by the generation of a poison, which is either in the form of a volatile oil or other organic matter, held in solution by ammonia and floating in the atmosphere. This arises from the accumulation of filth in large cities (chiefly night soil and the animal matter of urine) putrefying under certain meteorological conditions. This is inhaled, and being taken into the circulation, poisons the system. The meteorological conditions under which it is produced are entirely unknown to us. The effect is as much specific as that of small-pox, scarlatina, &c. It does not depend on putrefaction alone, nor on meteorological influences alone, but on both combined.

60. Concerning the treatment of yellow fever, we have not found much that is reliable. The recommendations of quinine coming from

* American Journal of the Medical Sciences, Oct. 1847. † Lancet, 1846.

‡ New Orleans Medical and Surgical Journal, March, 1847.

New Orleans last summer, and Dr. Nott's suggestion of kreosote, require confirmation.

61. Dr. Lewis, of Mobile, in the articles already quoted, discusses the question of the identity of the prominent forms of fever in that region, and concludes that each is a peculiar and independent form of the disease, met with under peculiar conditions of soil and other accessory circumstances. "In the coal, granitic and hilly section of the state, subject to great vicissitudes of weather, we find," he remarks, "the fevers to be of the continued or remittent type; usually, when not so from the outset, becoming continued as they become grave and serious. It would appear to be irritative, attended by dry tongue, slight delirium, tendency to serous evacuations, enteritis; and continuing from ten to fifteen days, displaying after death a distinct lesion of the small intestines."

In the Prairie lands abounding in animal matter, the "malady is of short duration, running its course in from two to six days; with a deep-seated thready pulse, cold skin, profuse exudation, pale, livid, mottled, shriveled appearance of the skin, cold tongue, tremulous, oppressed, irregular action of the heart, difficult breathing, violent, harsh expectoration, feeling of great heat, burning and smothering, anxiety, restlessness, mental depression, and gloomy forebodings of evil. Death ensues, and we find the surface and external tissues exsanguinous, whilst the viscera are excessively engorged with dark venous blood."

"In the deep, humid, vegetable morasses, marshes and swamps of the tertiary or southern portion of the state, the fevers are remittent, intermittent, or continued, lasting from four to fifteen days. The cold stage is attended with an intense feeling of coldness, stretching and shaking of the whole frame; fever immediately succeeds, and is characterized by a pungently hot skin, white furred tongue, violent pain in the head and back, pulse increased to 120 or 140, hard and contracted, maddened impatience, and irritability of temper. This fever, high and violent as it is, rages for ten or fifteen days without producing organic lesion or serious disease of structure. The blood becomes thin or impoverished, but the nervous system has not succumbed, as in congestive fever, nor do we see the same tendency to a breaking down of the tissues and putrescency, so characteristic of yellow fever. Convalescence is painfully protracted or interrupted by relapses until winter."

"In the trodden, *animalized* streets of Mobile is another form

of fever. Its mode of accession is varied; fever rages for a few hours or a day, and then its phenomena begin to lower; a short time elapses and there is but little outward token of the deep, silent and destructive changes that are going on. Three or four days pass and the prostration of muscular strength, loss of all elasticity, and contractility of the tissues and muscular fibre; the passive hemorrhages and rapid tendency to putrefaction proclaim at once its true and distinctive character.

"Here are four varieties of acute disease, peculiar, somewhat, to certain terrestrial formations. Can any one possessed of candour and ordinary reasoning powers, examine into their history and fail to see the striking characteristic differences?"

62. On the deeply interesting subject of congestive fever, Dr. Lewis expresses his views. He considers it, as we see in the preceding extracts, as one of the four varieties of acute disease, concerning the characteristic differences of which there can be no doubt, and elsewhere he describes it as a pure adynamic fever. In a review of these articles, Dr. Boling, of Montgomery, Alabama, sharply criticises this opinion, and with much force sustains his views of its identity with other forms of malarial fever, only differing so far as the peculiar symptoms of congestion are concerned. Dr. Hart considers congestive fever as in no way a peculiar disease, or one to be treated on any fixed or invariable plan. His conclusions are: 1st. That the summer and autumnal fevers of the South and Southwest, are all more or less characterized by periodicity or intermittence; 2d. That they are all varieties of one and the same disease; 3d. That the symptoms are so various that no one plan of treatment can be adopted; each case to be treated with reference to the symptoms. Dr. Bouchelle of Columbus, Mississippi,* ascribes "the leading phenomena of this disease to derangement of the organic system of nerves more particularly. The excitement is irritable in its character, and in most cases so excessive that it soon sinks the system into collapse unless moderated." To prevent this, the proper remedies are narcotics and cold water. To prevent recurrence, the most powerful combination is quinine and morphine. He has never seen the disease assume any other type than the intermittent or remittent; unless the system sink under the first paroxysm. The most robust seldom survive a second or third

* New Orleans Medical and Surgical Journal, vol. iii.

paroxysm. During the paroxysm he gives laudanum; in the interval, morphine and quinine; two grains of the latter being as efficacious as a larger dose, and the combination adapting it to the hot stage. All purgatives,—all stimulants, internal or external—all irritants are injurious. The cold water he uses externally and internally. The cold douche rouses the system in collapse and allays anxiety, thirst, internal heat, &c., during the paroxysm.

63. Professor Ford* of the Medical College of Georgia, describing these fevers, considers the name bilious fever inappropriate, since there are often no bilious symptoms present. He prefers the title remittent, recognizing several varieties distinguished by the symptoms;—cephalic, gastric, enteritic, and bilious. Each of these may terminate in the typhoid state; but the most fatal form is the algid or congestive. Post-mortem examinations are too much relied on; they only show the secondary determinations; the real pathological distinctive mark is periodicity. Intermittent and remittent fevers are identical, and the disease is an essential one.—*Treatment.* Here the great object is, to "jugulate" the disease; for this purpose he gives from five to ten grains of quinine every hour during the remission, till fifteen, twenty, or fifty grains are given, proportioning the dose to the danger. This object, he contends, has not heretofore been understood, quoting Eberle, Dunglison, Clymer, Watson, Condie, Dickson, Chapman, Kennedy, and Bell and Stokes, as recommending quinine only as an adjuvant in the treatment. He thus states his experience. It generally checks the first paroxysm, almost universally the second, in the milder forms of the disease. The average time of attendance upon such cases is about three or four days. When quinine fails to arrest a coming paroxysm it mitigates its violence, shortens its duration; and, although, in some cases, the nervous symptoms produced by the remedy are distressing to the patient during the paroxysm, these are soon relieved by the treatment appropriate to this state. He has almost forgotten the features of the typhoid state, so painfully familiar to him previous to the last twelve years, when using the treatment then generally taught by authority, and sanctioned by the profession.

64. On the interesting subject of periodicity, Professor Dugas, also of the Georgia College, and in the journal just quoted, for

* Southern Medical and Surgical Journal, March 1847.

January 1847, remarks, that these paroxysmal fevers are disturbances of the nervous system, periodicity being a peculiarity of nervous disorders and unknown in inflammation. "The most striking peculiarity of quinine," he says, "is its power to prevent the return of periodical affections, and this appears to me to be effected by blunting the susceptibility of the nervous system." He does not give it during the paroxysm, as this, "when once fully developed, will usually run its course despite of any efforts we may use to check it." But the exacerbation having subsided, "our treatment should be directed to the prevention of its return, and my invariable rule is *never to permit the recurrence of another paroxysm after I see the patient.*" This he effects by giving from fifteen to twenty grains during the remission, sometimes as high as thirty or forty grains, never more. The dose may be two grains hourly, or twenty grains at once, according to the length of the paroxysm. Cephalic or other local symptoms of congestion do not deter him from giving it; "the stronger the tendency of the disease to localize itself, the more urgent the necessity to arrest it."

65. On the subject of periodicity, Dr. Graves remarks, that the periodicity of intermittent fever does not apply to the succession of paroxysms alone, but is extended to the free interval. He ascertained that a quartan ague returned after various lengthened periods, precisely at the day and hour on which the fit would have been due, had the disease progressed uninterruptedly.*

66. The next form of fever to which the Committee would now advert, is *puerperal fever*. Its contagious nature and the connection it has with erysipelas, have occupied the attention of numerous writers, who have brought their opinions before the profession in such interesting points of view, that it is not possible to pass them by without notice. Dr. Kneeland has contributed to the American Journal for January and April, 1846, articles so thoroughly covering the whole ground and so ably and elaborately sustaining all his positions by argument and authority, that no apology is necessary for offering a rapid sketch of his views. He shows that the disease is carried from one diseased person to another, and that usually by the accoucheur or nurse. A post-mortem examination of one dead of the disease, will cause it to be propagated by the physician to the

* Ranking's Retrospective Address.

women he attends, even though he were only present, and may not have touched the body. The poison, he thinks, enters the system both by the vascular system and the lungs, by contact on the wounded surface of the uterus and by respiration. This latter fact is well authenticated by cases of the disease occurring in women before parturition, and by its prevailing epidemically.

Its first influence seems to be upon the nerves, though the principal effects are upon the blood. The fluids are to the utmost degree acrid, poisoning wherever they touch, even without the abrasion of the skin. The simple act of threading a needle used in sewing up a body, caused inflammation of a finger and death.

This excessive virulence and contagiousness does not characterize all forms of the disease, but only the "erysipelatous." As to the period of its contagiousness, he thinks it so from the commencement of the disease, increasing as it goes on. Its latent period, if it has any, is very short. How long, it is asked, after attending a case of this kind may a physician safely deliver a woman? A month, it is answered, should be spent in carefully endeavouring to get rid of the noxious influence. It is not carried to any great distance in the air.

With regard to the nature of puerperal fever, the author considers it a general diseased condition in which the peritoneum and every structure of the uterus may participate, and as these are affected differently in different cases, hence the variety in the symptoms and seats assigned to it by different writers.

Erysipelas is also a diseased condition of the whole system, and may manifest its action externally on the skin or internally on any membranous structure; the skin and cellular structure are the most frequent seats of the affection. The serous membranes being a modification of the latter, and the peritoneum being predisposed by gestation and parturition, explains the frequent affection of these in the abdomen. The same conditions of atmosphere give rise to puerperal fever and erysipelas. From their almost constant coexistence, the common origin is evident, though their cause is unknown. The same morbid poison gives rise to these two diseases: in other words, puerperal fever is often only erysipelas attacking a puerperal woman; presenting the same constitutional symptoms, march and morbid appearances, with a tendency to the uterine organs. The practitioner should not attend or dress cases of erysipelas when attending women in labour, much less make autopsies. "In conclusion," says the author, "we conceive it to have been

shown that puerperal fever is often contagious, and the erysipelatous form remarkably so. And that these two diseases have the same origin, one and the same contagion operating in the production of both."

67. But after stating thus fully the leading views of Dr. Kneeland, in the well written articles from which they have been quoting, the Committee cannot, in fairness, abstain from referring to what they have seen on the other side; first mentioning that similar views to those of Dr. Kneeland are held by Blackmore, Symonds, Flint, Peddie, &c. In other accounts of epidemics of the disease, no mention is made of erysipelatous symptoms. Bidault and Arnold* describe epidemics where examination showed different organic diseases; as the lining membrane and lymphatics of the uterus and appendages—peritoneal inflammation—infiltration of pus into the pelvic cellular tissue, and the blood as in typhus fever. In cases related by Botrel, the lymphatics were diseased, and pus deposits found in the lungs.

68. It may not be out of place in connection with the subjects just discussed, to mention a new kind of serous inflammation described by Dr. J. Hughes Bennett,† where the membrane presented its usual white, glistening appearance, and nothing could be discovered but a slight effusion of serum, which was at first considered as non-inflammatory, but under the microscope showed pus cells in considerable quantity.

69. Among the diseases which make up the long list of those which, though not tending usually, to a fatal termination, are yet of such serious nature as to attract, in an especial manner, the attention of the physician, perhaps there is none more worthy of especial notice than *rheumatism*. The morbid anatomy of this disease has been accurately illustrated by Hasse, who found the muscles and subjacent cellular tissue dotted with ecchymoses and delicate vascular ramifications, the latter tissue being more or less infiltrated with a yellowish transparent fluid. On closely examining the cartilages he says they were of a reddish hue. On the articular surfaces of the bones, scattered red points of different sizes. The foramina of the bones filled with a dirty red pulp, consisting of

* Gazette Médicale, Ency. des Sci. Méd., 1845.

† Monthly Journ. Med. Sci., Aug. 1847.

aggregated cells of a globular form, which, treated with acetic acid, showed large nuclei. There were also numerous blood corpuscles. The fat cells were few and of a particular shape. The whole cell-wall was separated from the usual homogeneous contents, and the interval thus formed filled with oily granules. Occasionally a little spot of yellow was seen among the dirty red colour, which indicated the presence of normal fat cells. The reddened portions were dotted with tubercular spots which were sharply circumscribed. The cartilage was in many places irregularly thinned, especially at the margin of the joints. On examining the bones of non-rheumatic persons, Hasse could not distinguish any of these changes.

70. Dr. Latham has drawn attention to the connection between acute rheumatism and diseases of the heart. Out of 136 cases of the former he found the heart affected in 90. Of the 90, the endocardium alone was the seat of disease in 63, the pericardium in 7. In 11 cases both of these membranes were affected. From this it is concluded that the complication is the rule; the exemption, the exception. That the endocardium is the seat of disease nine times, where the pericardium is once. That acute rheumatism, then, is not a trivial disease, since it is so often complicated with disease of the heart, and since this organ is but rarely restored to health afterwards. (*Lectures on Subjects Connected with Clinical Med.*)

In the treatment of these diseases, Dr. Latham thinks bleeding of doubtful advantage, if, indeed, it be not really injurious. It should only be used as accessory to other treatment. Colchicum he thinks useful in cases of relapse, and he uses it uncombined. This principal dependence is on mercurial purgatives given according to circumstances.

71. Dr. Corrigan recommends *firing*, which he performs by heating a button-shaped instrument, in the flame of a spirit-lamp, to the temperature of boiling water; the instrument is tapped on the part and quickly withdrawn, the manipulation being rapidly and frequently repeated.

The pain of this operation is trifling, the effect being only a slight and transient redness of the skin. Raciborski recommends galvanism and cod-liver oil. Dr. Ruschenberger, in his quarterly report of diseases and injuries at the Naval Hospital, New York, says: "I have been in the habit of treating acute rheumatism upwards of two years, by cold applications to the hot and swollen joints, and admin-

istering at nights from three to six grs. of opium, with an equal quantity of quinine; regulating the dose by the condition of the pupil alone. With a dilated pupil I found patients bear the largest dose without inconvenience, and I have not yet met with a single case in which pain was not completely removed in from 24 to 36 hours, provided the attack were recent, or of not more than a week's duration."

72. As reference has been just made to diseases of the heart, the Committee will here refer to some remarks of Dr. Burrows, corroborating the observations of other writers, that acute diseases of the heart often simulate many of the diseases of the brain and spinal chord. From the cases he has collected together he shows that pericarditis may take the symptoms of inflammation of the brain and its membranes, of mania, tetanus, apoplexy, chorea and hysteria. These are complications of great importance, because where the true disease is lost sight of, and the treatment directed only against the simulated one, the mortality may be very much greater.*

But after all this, and with due respect for the authority of Dr. Burrows, it must be admitted that the relation of cause and effect in those cases is obscure.

73. Speaking of chorea, Dr. Branson,† of Sheffield, comes to the following conclusions:—1*st.* The heart must be constantly examined, since 9 out of 21 consecutive patients suffered from disease of the heart. 2*d.* Disease of the heart is frequently the consequence, not the cause of chorea. 3*d.* It is often insidious and only detected by the stethoscope. 4*th.* The valvular souffle in chorea is the result of inflammation and not of an altered condition of the blood, as in anæmia, the inorganic murmur in anæmia being heard invariably with the first sound, and loudest over the *aortic valves*, and not at the apex of the heart. 5*th.* That the endocardium covering the mitral valves is much more frequently the seat of inflammation in simple chorea, unaccompanied with rheumatism, than either the pericardium or the endocardic covering of the aortic valves. 6*th.* That early treatment alone can effect anything, since the "bruit" announces deposit of lymph on or under the endocardium, and this can only be removed when recent. 7*th.* Mercury rather produces absorption of lymph from the pericardium than from the endocardium.

* Ranking's Retrospective Address.

† Prov. Med. and Surg. Journal.

8*th*. The rheumatic diathesis is more strongly marked when the pericardium than when the endocardium is affected. (*Retrospective Address.*)

74. With a few remarks on the pathological conditions of the brain and nerves in reference to one or two interesting forms of disease must close what the Committee can say on this branch of their duty.

M. Toulmouche* shows, from observation, that disease of the cerebellum is not always accompanied by excitation of the generative faculty. Also that the muscular movements are not always deranged. His opinions are sustained by two observations of Prestel and Taylor. M. Toulmouche thinks that disease of the cerebellum is manifested by pain in the occipital region, continual giddiness, hemiplegia of the opposite side not implicating the tongue, diminution of the sensibility of the skin, and integrity of the intellectual functions.

75. A case of paralysis of the seventh pair of nerves is reported in the *Archives Générales*, 1845. There was paralysis of the right side of the face without loss of sensation: the sense of taste was imperfect in that half of the tongue. Ordinary sensation was perfect. The author remarking on the fact that the taste was only impaired, not destroyed, and that it improved or became worse as the paralysis increased or diminished, accounts for the whole set of phenomena by attributing the loss of taste to "a motor paralysis of the contractile elements of the papillæ, which rendered them unable so to apply themselves to sapid substances as that they should produce their ordinary effect upon the gustatory nerve;" differing from Longet, who attributes it to dryness of the tongue, and from Berard, who ascribes it to paralysis of the Vidian branch of the chorda tympani.

76. *Intercostal Neuritis and Neuralgia.*—M. Beau thus describes this affection. The intercostal nerves, from the articulations to the angles of the ribs, are in contact with the pleura; after that they pass outwards between the muscular layers. Now, in pleuritis, this posterior portion of the nerve being in contact with the inflamed membrane, participates in the inflammation. This is manifest by comparing it with those in uninflamed parts. Both the neurilemma and nervous substance are inflamed. This accounts for the pain in

* Gazette Méd., 1845.

pleurisy being usually felt at the anterior part of the chest, though in the majority of cases the inflammation is in the back part of the pleura, because it is there that the nerves are in contact with the inflamed membrane, and in virtue of a well known law, the pain of a diseased nerve is felt at its point of distribution. If these remarks be true, the height at which the pain is felt anteriorly will point out the seat of the disease posteriorly, by tracing back the course of the nerve. All the nerves in contact with the inflamed pleura are equally affected, but those give most pain which correspond to the most movable ribs—the sixth and seventh. Pain is sometimes felt at the back part of the nerve. This is usually the consequence of pressure made on the part, and is not spontaneous. It is the effect, as in the other case, of radiation to the distributive terminus of the dorsal or muscular branch. In some cases little or no pain is felt, and the pleurisy or pneumonia is latently developed. This results from the absence of sensibility peculiar to certain individuals. Old pleuritic pains, attributed usually to adhesion, depend on the neuritis becoming chronic. The pain under the clavicle is due to inflammation of the posterior part of the nerves near the seat of the tubercles, the upper part of the chest, in consequence of secondary pleuritis. This affection is to be distinguished from intercostal neuralgia, which may depend upon dyspeptic or rheumatic causes.*

The Committee will here notice a few of the diagnostic symptoms of certain diseases, which have been dwelt on latterly by writers in the journals.

77. Dr. Boling† of Montgomery, Alabama, describes "a fine mucous or crepitant rhonchus, seemingly seated in the larynx, loud enough to be heard distinctly at the distance of two or three feet from the patient, and so *persistent*, that it is not removable, or but momentarily, by any effort to expectorate which the patient may make, while at the same time there are present none of the signs of bronchitis or laryngitis." The patient seems indifferent to its presence. On applying the stethoscope just above the clavicles, it is found to proceed from the apex of the lung. This is *diagnostic of pneumonia of the apex of the lung*, a disease of most dangerous character.

* Noticed in Medico-Chirur. Rev., 1847.

† American Journal, July 1847.

78. *A new Stethoscopic Sign.*—Dr. Cristophe* describes a new sound which he calls *egony*, because it is a similar sound to egophony, but a diminutive of that. He characterizes it as a short vocal resonance, somewhat tremulous when monosyllables are articulated. He describes it very minutely, and says it indicates an old standing pleurisy, and also a latent, but actual, chronic pleurisy; such as sometimes precedes tubercular disease. It is always accompanied by thickening of the pleura, and adhesion with strong bands of false membranes. When egophony is present, an effusion either disseminated or collected always exists—in simple egony such is never the case.

79. *Diagnosis in cases of Cerebral Disease.*—Mr. Corfe† says, that when the lesion of the brain has been sudden, the eyes are closed, and the patient is insensible; when slow and progressive they are half closed, or wide open, and there is distortion of the features, irregularity of the pupils, dullness of the countenance, and palsy.

80. In the same journal, Mr. Croft enumerates a train of symptoms closely resembling those of approaching apoplexy, which are often treated by profuse bleeding, &c. He shows that brisk purging with calomel, and colocynth followed by blistering along the longitudinal sinus effectually relieves the patient; bringing away dark bile, worms, or other offensive matters from the intestinal canal.

81. *As Diagnostic of Hæmoptisis*—Dr. White‡ of New Castle-upon-Tyne describes a crepitating sound, smaller than that of pneumonia and entirely uninfluenced by respiration.

82. *Sputa in Pneumonia.*—M. Remak§ describes fibrinous threads of the form and diameter of the extreme bronchial ramifications, showing under the microscope delicate fibrils laid lengthwise, and enclosing cell-like bodies similar to those of pus. These are found in the first stage before infiltration, and do not indicate severity.

83. The Committee would gladly have devoted some time to the consideration of those diseases, in which the condition of the urine is changed. This class of affections has lately shared largely in the

* Gazette Médicale, August 21, 1847.
† Medical Times, 1847.
‡ Lancet, 1846.
§ Archives Générales de Méd., 1846.

investigations of pathologists, and though still deeply enveloped in mystery and uncertainty, as to some important points, has in many respects been fully and clearly illustrated; but the subject cannot be dispatched in the small space remaining at their disposal. They will, therefore, pass it by, and hastening at once to another subject, will say something of *therapeutics*.

Here, again, they meet with much new and important matter. In endeavouring to fulfil this part of their duties, it has occurred to them as the most feasible plan, to take up one or two of the most important or novel medical articles, in succession, and view them in the newest or most improved aspects.

84. The Materia Medica probably has no article on its list more interesting, as well as important, than quinine. Some account of the therapeutical history of this medicine, at the present day, may not, perhaps, be without its use. Without attempting the labour more than Herculean, of digesting all that the last few months has given to the world on this point, the Committee will exercise the privilege of selection.

85. *Of the Doses of Quinine and the time of administering it.*— Dr. Upshur gives it during the paroxysm in remittent fever, in any quantity, till the patient complains of noises and buzzing in the ears. He has never lost a patient where these effects followed a moderate quantity of the medicine. But when unusually large doses fail to induce them, the case generally proves fatal. His dose in remittent fever is ten grains every hour; in intermittent, five grains every two hours, till the effects mentioned are produced.

Dr. Byrne gives it in the hot stage. In mild cases the dose is unimportant, provided ten or twenty grains are introduced within a certain number of hours before the expected exacerbation. But in severe cases, that quantity must be given in one or two doses at the utmost.

Dr. Van Buren gives in remittent fever, twenty or twenty-five grains at a dose, as soon as the skin becomes moist, and repeats it at the end of from four to eight hours. In intermittent, he prescribes fifteen to twenty grains, from six to twelve hours before the chill is expected. In two-thirds of the cases thus treated he found it unnecessary to repeat the dose, and does not remember an instance where he had to give a third dose.

Dr. Graves gives a large dose at the commencement of an

attack, and then waits for another. The system, he says, becomes accustomed to it; and its curative effect is lessened if used in the intervals, and it loses its anti-periodic influence. Prof. Dickson* says, "A medical friend in Alabama assures us he has given thirty grains every hour for seventeen hours in succession." Again, "We have heard authentically of a western physician who gave an ounce in one night" to a patient with bilious fever. Again, "From thirty to fifty grains are spoken of as a familiar dose; and even one hundred grains are occasionally given at one dose with safety and striking success."

Martin Solon† says, "Magendie asserts that two grains of sulphate of quinine are sufficient to arrest the course of intermittent fever;" but most physicians prescribe it in larger doses. Thus, an adult may take during an intermission six grains for a quotidian, eight for a tertian, and twelve or more for a quartan. According to Guersant and Reveillon, a Dr. Bazire gave his wife, ill with malarial fever, "in a very short space of time two hundred and forty grains." Soon after, the symptoms increasing, "he gave her, at one dose, three hundred and seventy-five grains." Being now taken ill himself, he took, by the mouth and rectum, nine hundred grains in a very short space of time; and, in the period of eight or nine days, he took five ounces. He died, and she recovered imperfectly, remaining deaf and blind for some time, and then only partially recovering.

Dr. Dowling,‡ of New Albany, Indiana, in an article "On Endemic Summer Diseases," says of the treatment of remittent fever, "Occasionally during a remission I have ventured on quinine, and, although by no means certain that it has not proved beneficial, yet it is not my general practice to give it under these circumstances; nor, in truth, do I consider this, or any other preparation of bark, at all essential to the cure of remitting fever. During convalescence it may answer very well, in small doses, as a tonic; but even here I prefer the chalybeates, elixir of vitriol, or cold infusions of chamomile or columbo." Yet he admits its usefulness in intermittent fever, and gives rules for its employment, by following which, "in a vast majority of cases, the cure may be completed by quinine alone." In the treatment of "congestive chills" he says: "I have but little to say. Quinine and calomel are the remedies in which I place the

* South. Jour. of Med. and Pharm., 1846.

† Dict. de Médécine et de Chirurgie,—Art. Quinquina.

‡ West. Journ. of Med. and Surg., July 1847.

greatest reliance." In the chill he gives a large dose of quinine and laudanum, but does not say how much. After the paroxysm, quinine and calomel, four or five grains of each every two, three, or four hours, continuing till the apyrexial period is past, and sometimes for a day or two longer.

Dr. Fee,* of Leatherwood, considers quinine, 1st, as a *tonic*, in doses of one or two grains three or four times a day; 2d. An *anti-periodic*, which effect it produces in *two* ways; by giving tone to the nervous system, and thus preventing the return of nervous irritation; and by its *sedative* or quieting influence, keeping down nervous irritation till the paroxysmal time passes. The first it effects in one and two grain doses—the last in fifteen or twenty grain doses. 3d. *Sedative* in fifteen or twenty grain doses—this effect being promoted by the addition of morphine. 4th. *Anti-congestive;* an effect produced in *two* ways—in small doses when the congestion is owing to a weakened state of the system, with lack of nervous energy—in mammoth doses when the nervous energy is normal, but the nerves too irritable. 5th. *Narcotic;* in virtue of which power it produces ringing of the ears, blindness, deafness, &c.; for the nervous energy of the heart being lessened, less blood is sent to the brain.

Dr. Harris,† of Wetumpka, Alabama, says the dose should be ten or fifteen grains, but does not tell at what interval, or how often it may be repeated. In the congestive form he gives five or six grains every one or two hours till twenty-five or thirty grains have been taken.

Dr. R. S. Holmes‡ says, "The largest amount of quinine I have ever given at one dose is eighty grains. This is the extreme dose: the average quantity is about twenty grains.

In view of the rash and heedless use which is now being made of this medicine, it becomes a question of deep importance for us to decide what is a *poisonous* dose of quinine, and what *symptoms* characterize that effect. Prof. Dickson, in the paper cited, says its poisonous effects are shown by "a collection of symptoms resembling those which characterize the very class of fevers in which this medicine is most clearly indicated, and is most absolutely necessary to our hopes of cure." In the case of Mrs. Bazire, a "serious attack of intermittent fever," there followed a state of "stupor, with heaviness of head, giddiness, difficulty of moving, amaurosis, and deafness." After the large dose mentioned, these symptoms increased, she be-

* West. Journ. of Med. and Surg., March 1848.

† Ibid., Feb. 1847.

‡ South. Med. and Surg. Journ., March 1847.

came entirely deaf and blind, the respiration was embarrassed, the pulse was miserable, and the skin cold. Look through the books, and say whether this would not be received as a fair description in few words of "a pernicious, malignant, or congestive fever?" In the case of Dr. Bazire (Prof. Dickson continues), "His respiration became frequent, and resembled that of a man attacked by a grave pneumonia, terminating in hepatization: his pulse was small and irregular—his limbs chilled. After taking five ounces quinine, M. Reveillon found him covered with cold sweats—completely deaf and blind—his breathing difficult and rattling—in a profound stupor: his physiognomy resembled that of a drunken man; but, when he could be roused, his replies were relevant." In a case where one hundred and eighty grains were given by mistake, Giacomaii says: Uneasiness in the stomach and head, with giddiness—nausea and cardialgia followed: he fell senseless. Nine hours after, he lay on his back motionless and pale; fingers cold and livid; body cool; respiration slow and sighing; pulse regular, but slow, and hardly perceptible; so also the action of the heart; almost complete deafness and blindness; extreme feebleness of voice; great thirst; tongue pale, and slightly moist, with white fur; breath cold; recovery extremely tedious.

According to Melier, as quoted by Professor Dickson, death, delirium, coma, pneumonic symptoms, hæmaturia, amaurosis, deafness, obstinate gastralgia, diarrhœa, epileptic symptoms, and palsy, is the fearful list of ills resulting from poisoning with quinine. The same results were obtained by Magendie and himself on animals.

What, then, is a fatal dose of quinine? This question is, as yet, not satisfactorily answered. The medicine comes to us so much adulterated, that it is hard to say what is the maximum dose.

Dr. Baldwin* has given the result of his experience of the poisonous qualities of quinine, but they cannot be taken as fully established, since his experiments were made on dogs. Dr. Baldwin has, therefore, scarcely added anything to our previous knowledge. All that there is of positive, is the cumulative power of quinine as shown by the two cases of fever which he narrates, particularly the last. He establishes no dose as poisonous, attributing the widest range in this matter to the idiosyncrasy of individuals and the pathological condition of the patient; and confesses that he is aware of no *antidote*. He gives rules for its administration which may be useful, but possess no novelty.

* American Journal, April 1847.

The cases of blindness from the use of quinine, reported by Professor M'Lean* of Rush Medical College, are highly interesting in this connection. A man with a low grade of remittent fever took sixteen grains, (as nearly as could be judged by the sight) every hour till nearly an ounce was taken. Before it was discontinued he became perfectly blind. For the first year he slowly and gradually recovered, and "later than this" his sight was not yet perfectly restored. In another case "large quantities were given, and while taking it the patient became blind; which continued for several weeks;" "her sight was finally restored." In another case, doses averaging three grains every hour were given for three days, at which rate two hundred and sixteen grains must have been swallowed. Blindness took place on the third day. "After some weeks his sight became partially restored, but continues more or less imperfect even at the present time. During the greater part of the first year he could look steadily at the sun, without seeing it or even experiencing any painful sensation. When he first began to see sufficiently to read, which was in the course of the first year, he could perceive but a small luminous spot upon the paper, about an inch in diameter, within which he could distinguish letters, but all without was cloudiness and confusion. During this time the pupils were very much dilated, and he could see objects at a distance much better than those near by. His sight has continued to improve ever since; and at the present time, although quite imperfect, is sufficiently good to enable him to read and write, though with difficulty. The pupils are still considerably dilated, and he sees objects at twilight imperfectly. The direct rays of the sun upon the head produce pain there, accompanied with a painful sensation deep in the orbit of the eye, and disordered vision. Exercise easily produces fatigue by which his sight is impaired." In another case three drachms were taken, in six grain doses, in the course of thirty-six hours; "at the expiration of which time he became perfectly blind." "On the two succeeding days, his sight, although very imperfect, was considerably restored;" but as the patient died, no further observation of the physiological phenomena could be made.

In a case related by Dr. Baldwin, a girl six years old took two grain doses at first, every two hours, afterwards every four hours: but we are not told how much she took in all; if it was given regularly the quantity would have been twenty grains. Ten hours after the medicine had been suspended by order of the physician,

* Illinois and Indiana Medical and Surgical Journal.

the attendant, thinking the patient in a good condition, gave eight grains in two doses, at three hours interval. Soon her skin became dry, and she was very restless; in an hour she had a convulsion, her pupils became dilated and she was totally blind. She was rational, possessing her mental faculties in the intervals. She died in two hours.

In all that has been cited, it will be vain to seek for any positively poisonous dose of quinine. The medicine possesses such properties, but not any definite quantity of it, so far as we yet know. On this point, and also in regard to its applicability to disease, much uncertainty must exist so long as its mode of action is unsettled. Martin Solon, in the article cited, treats of it as a *tonic* and an *anti-periodic*. Of late, much variety of opinion on the subject has been expressed. Dr. Bell considers it as a *sedative;** with which view it is used in the Italian hospitals given in large doses to reduce action in aneurism.

According to M'Cormick, in the article by Professor Dickson already quoted, "in large doses it is *sedative*, *anti-periodic*, *anti-intermittent*—does not augment inflammation—does not prevent the cure of inflammation, but may promote it; accelerates the absorption of other remedies, such as mercury—allays contingent symptoms of fever, not only preventing, but arresting a paroxysm and checking the progress of such lesions as may be menaced;" a list of virtues long enough to make it applicable to almost every case.

Professor Dickson remarks: "it has undoubtedly been observed both to excite and calm, or tranquillize, if not depress. It depends wholly on the condition of the recipient, which shall be its prominent or lasting influence." "But even those who would endeavour to explain its curative efficacy by reference to its sedative powers on the one hand, or on the other to an imagined tonic property, still confess that beyond these it is gifted with certain specific virtues."

Ducros says a lotion of less than one grain applied to the velum palati, produces abundant salivation in a very short time.

87. The most common opinion, perhaps, as to the modus operandi of quinine, is that it is *anti-periodic*. The term, it must be acknowledged, is vague; and when we reflect on the vast variety of diseases in which periodicity is a feature; a variety including almost every conceivable pathological as well as physiological condition of the human system; when we reflect that this very periodicity itself

* Ranking's Half-Yearly Abstract, July to January, 1847.

varies as much in itself, as the conditions in which it is found vary; that the intervals between the attacks may be of almost imperceptible duration, or extend to an indefinite length of time; that the same variety may exist with regard to the continuance of the attack itself; that the characteristic symptoms of the disease may be sthenic or asthenic, general or local, congestive or diffused, vascular, nervous, muscular—in short that periodicity, either in the paroxysms or the exacerbations may be predicated of almost every condition, healthy or morbid, of the system,—the question may well be asked, is there any state which absolutely precludes the use of this protean remedy?

88. Another virtue, still, attributed to quinine, is its *anti-malarial* effect. If we really knew what malaria was, we might be better able to weigh the value of this opinion. But, as at present informed, we must be content, perhaps, to say, that judging of a cause by such of its effects as we can appreciate, there does appear to be something like antagonism between quinine and malaria.

89. The *combinations* in which quinine may be used with other remedies, furnishes a subject for reflection and examination, hardly less important and interesting than the one just considered. Less has been written on this point than the subject deserves. From much experience, we are prepared to show that it may be advantageously given, not only in alternation with evacuants and alteratives, but may be most usefully combined with these: doses being administered, at any period of our febrile diseases, composed of quinine and alterant or evacuant medicines.

90. Of cod liver oil, Indian hemp, aconite, and many other remedies recently brought before the profession; of the very numerous new preparations of old medicines, as well as the new applications to which many of them are now successfully brought, as in the case of nitrate of silver; of the physiological and therapeutical effects of ether and chloroform, the Committee would willingly speak; but they have already trespassed so long on the time and patience of the Association, that they must hasten to conclude by touching briefly on the last subject they have to notice.

91. In the case of *The State* v. *Reuben Sedler Stark*, tried before Mr. Justice Wardlaw, at Sumter, S. C., Spring Term, 1847:—The prisoner was charged with the murder of his wife and his two only children. After the deed he attempted to take his own life by cutting his throat with a razor. The murder was manifest; and, in his defence, it was contended that he was labouring under *mania à potu*, so as to be an irresponsible agent. It was proved in the testimony that he had said that rather than see his family in poverty he would murder them; and, on the night previous to the day on which the act was committed, he had spoken of having seen persons whom he had not seen, and done horrid acts which he had not performed. All testified that he was of intemperate habits; and a physician deposed to having attended him some years before for delirium tremens. After the deed, he gave no evidences of insanity, except using a single expression about a hawk, which was irrelevant, and, if it may be considered as such, the most perfect indifference as to the deeds he had committed. The physician who was on the spot immediately after the act, testified, that neither in his breath or otherwise, did he give any evidence of having been recently drinking. Several physicians who were examined, attempted to draw distinctions between mania à potu and delirium tremens; the latter being the consequence of the withdrawal of stimulants, the former coming on during the debauch, and, being thus an immediate consequence of the act of drinking, and co-existing with the state of drunkenness, cannot be distinguished from it during the time that ordinary drunkenness lasts. Charging the jury upon this view of mania à potu, and upon the facts of the case, the Judge instructed them that, in the eye of the law, he could not be regarded as entitled to the leniency due to one of unsound mind.* He was found guilty, and a motion for appeal rejected.

The distinction here made between mania à potu and delirium tremens we have not found supported by any authority we have been able to consult. Neither Beck nor Dickson, upon whom the medical opinions seem to rely, afford them any grounds.

92. Another question, to which a recent trial, of much celebrity, in New York, has given great interest, is this: At what period of utero-

* Strobart's Reports, Vol. i.

gestation the child possesses that degree of life, the destruction of which can be considered as infanticide? A difference in the degree of punishment is made in consideration of the child being quick or not.

A conscientious physician may, with no little concern, ask himself the question where the line is to be drawn. If natural life and legal life are different, in what does the difference consist? Is muscular motion the only, or the most important, sign of life? If not, why should quickening be the period from which infanticide is to date? Yet such, we believe, has been the law in New York.

A case singularly in opposition to this view is related by Lord Campbell in his *Life of the Lord Chancellors*, vol. iv. p. 524. The will of an ancestor of the late Sir Francis Burdett left his estate to a cousin, "in case he should leave no son at the time of his death." At the time of his death, his wife was pregnant without his knowledge, and a son was born. The devisee contended that the testator "left no son at the time of his death." It was decided, that though not actually born at the death of his father, yet, in the eye of the law, he had an existence in his mother's womb. An unborn child may, therefore, take as heir or devisee.

In the case of Luceba Parker, charged with procuring miscarriage by thrusting a sharp instrument into the womb and body of a married woman, with consent of the woman, the jury found a verdict of guilty; but her counsel moved an arrest of judgment because it was not set forth that the woman was quick with child. The Judge instructed the jury, that it was not necessary to prove this fact; but the question being important, was reported to the Supreme Court. The Chief Justice stated the question to be, "Whether it is an indictable offence, at common law, to administer a drug or perform an operation upon a pregnant woman, with her consent, with intention and for the purpose of causing abortion and premature birth of the fœtus; by means of which abortion is, in fact, caused, without proving that at the time of the administration of such drug, or performance of such operation, such woman was quick with child."

There is a different case where the attempt is made without the consent of the woman. This is a highly aggravated assault, and indictable at common law. And if the woman die when the attempt is made, with or without her consent, the party making the attempt is guilty of her death, on the ground that it is an act done without lawful purpose. But at common law, the court were of opinion, that no indictment would lie for attempts to procure abortion, with con-

sent of the mother, until she is quick with child, though such acts are in a high degree offensive to good morals and injurious to society.* The Legislature of Massachusetts subsequently made provision for the punishment of the offence of which the defendant was guilty.

93. Here the Committee will close their report with a contrasted reference to the opinions of two authorities, high in the estimation of their respective countrymen.

In discussing the treatment of "fevers and other diseases having a definite course to run," Ranking, in his Retrospective Address, speaking of the contributions on the subject for the past year, remarks:—"We may, however, acquire this one idea from their perusal, that these cases *get well* but are not *cured*. Nature is the agent in the benefit produced, and he is the best physician who most clearly acknowledges her power and interferes least with her operations. He is the worst who is ever attempting to force her to bend to the potency of his drugs." Prof. Dickson, in his beautiful introductory before his class at the University of New York, says, on the contrary, "Our fevers *will* kill, in a large proportion of cases, if not arrested artificially; our inflammations tend rapidly to disorganization, and our profluvia to exhaustion, among the hardy and hard-living inhabitants of our wide spread territory, with the great majority of whom we shall not be able to avail ourselves of those all-important adjuvants of a milder and less efficient system of practice, to be found in a well-regulated regimen, judicious nursing, and assiduous care."

With an earnest expression of the deep regret which the Committee has felt that the valuable services of this distinguished professor and amiable gentleman have been lost to them by a call as honourable to himself, as his services in the cause of science have been useful to his profession; a regret in which the Association will, no doubt, fully participate, the Committee will here bring their labours to a close; after bespeaking, of the Association, its kind indulgence for the imperfect and faulty manner in which they have been performed.

W. T. WRAGG,
Chairman.

* Metc. Mass. Rep., vol. ix.

B.

REPORT OF THE

COMMITTEE ON PRACTICAL MEDICINE.

The Committee on Practical Medicine, appointed by the American Medical Association, at Philadelphia, in May, 1847, *respectfully beg leave to submit the following*

REPORT.

The duty with which the committee are charged divides itself into two parts. 1st. To report on the more important improvements effected in this country in the management of individual diseases; and 2dly. To report on the progress of epidemics; referring as occasion requires to medical topography, and to the character of prevailing diseases in special localities, or in the United States generally, during the term of their service.

In respect to the first part of their duty, the committee regret that circumstances, not under their control, have prevented them from fulfilling it in a manner which is satisfactory to themselves; and consequently they can scarcely hope, in what they may offer, to meet the expectations of the Association.

It is rare that any signal improvements in practical medicine are introduced and established in the brief space of a year. Improvements in the treatment of individual diseases are effected only, or, for the most part, by careful and reiterated observation and experiment, and cautious and rigorous induction. The medical journals and periodical retrospects are replete with announcements of novel methods of managing various diseases. Many of these methods disclose, in their narratives, evidence of their hypothetical origin; while others seem to betray a disregard of well established principles and rules of practice, and are mere crude substitutes for accre-

dited plans of treatment. The results attained by enlightened empiricism are sometimes received with acclamation; and not unfrequently take the highest rank among the improvements in practical medicine. But there are comparatively few minds possessing the qualities requisite to originate, either empirically or by the process of induction, improved methods of treating individual diseases. It is for this reason that the publications of a year, periodic and monographic, though richly stored with the products of scientific research in animal chemistry, physiology, hygiene, and general pathology, present so meagre an account of substantial improvements in the art of healing, strictly so called.

The tests of improvements in practical medicine, are the benefits derivable from means, new or old, applied in certain forms or conditions of disease in which they had not been previously employed, or not employed in the usual methods,—benefits not obtainable, or, if so, not so readily, or to the same extent, by the treatment ordinarily prescribed in the same affections. To decide by these tests what are real improvements is, in many instances, a task not only of magnitude but of great delicacy; it demands time and a patient interrogation of nature,—a scrutinous comparison of the effects produced by the old and established methods of treatment with the effects produced by the new. To what results an examination of the recent innovations in the management of certain diseases, conducted in the mode now referred to, would lead, the committee are not prepared to report.

But though unable, at this time, to express any opinions on the subjects which might come under their remark or criticism in this department of their duty, the committee beg leave to submit a communication obligingly furnished them by Dr. Gurdon Buck, one of the Surgeons of the New York Hospital, relating to a remedy ingeniously conceived and successfully employed by that gentleman, in cases of œdematous laryngitis in its suffocative stage. Though the remedy referred to is surgical, the disease to which it is applicable is strictly medical, and, for this reason, it may not inappropriately be introduced to the notice of the Association by the Committee on Practical Medicine. On examining the record of cases treated by Dr. Buck, and his reflections upon them, together with the beautiful pictorial illustrations of the forms of the disease, and the mode of applying the means of relief, we cannot but express the belief that a most valuable improvement has been made in the treatment of a formidable disease. The practice consists in scarifying the œdema-

tous parts; and thus relieving the respiration to a degree which gains time for the favourable operation of other remedies, and which may obviate the necessity of resorting to tracheotomy. But we will allow the memoir drawn up by Dr. Buck, and herewith presented, as a supplement to this report, to speak for itself.—(B. 1.)

In entering on the second part of their report, or that relating to the progress of epidemics, &c., during the term of their service, the committee lament that circumstances, before alluded to, have prevented them from collecting the materials necessary to enable them to give a full circumspective view of the subject. Indeed, it may be questioned whether the topics now referred to, comprehending in their range the nature and effects of the endemic, epidemic, contingent and climatic influences which are operative in producing and modifying popular diseases in the United States, do not collectively form a theme too extensive in its details to be examined and reported upon by a central committee within the time allotted for the accomplishment of the task. In the case of your present committee, it is felt, that, had there been no impediment to the prosecution of their duty, their utmost diligence would scarcely have enabled them to compass even an outline of the subject.

In the observations to which the committee invite the attention of the Association, epidemics are regarded as arising from three general sources, to wit, *contagion*, *infection*, and *meteoration;* and in accordance with this view of their etiology, they may be divided into *contagious*, *infectious*, and *meteoratious*, and defined as follows:

1. Contagious Epidemics are those distempers which arise from poisons, generated by specific morbid actions in the human body, and which are communicable from the sick to the healthy by mediate and immediate contact. To this division belong scarlet fever, measles, small-pox, and a few other diseases.

2. Infectious Epidemics are those diseases which originate from the emanations or miasmata from decomposing organic substances, including the excrementitious or effete animal matters thrown out of the body in health and disease. The disorders referable to this class are intermittent and remittent fevers, yellow fever, typhus, malignant puerperal fever, and some varieties of dysentery and erysipelas.

3. Meteoratious Epidemics are those wide-spreading maladies which arise from certain latent influences of the general atmosphere, and which have no special relations or connections with seasons,

localities and climates. The most notable examples of this kind are influenza and cholera.

In respect to these three kinds of epidemics, the following laws are well ascertained:—1. That their prevalence is periodical. 2. That no two of them, belonging respectively to different classes, and the same is generally true of such as belong to the same class, occur to the same extent, in the same place, at the same time. 3. That whenever any of the diseases belonging to the several classes prevail together in the same place, they become involved in each other in the order we have arranged them, the first being modified by the second, and both of these by the third, so that one is always predominant, and compels the others to wear its livery. 4. That the same epidemic varies in its character in different years, the modifications depending mostly upon the diversities of the seasons, and the varying influences of the prevailing insensible meteoration, or, as it is called, the epidemic constitution of the atmosphere.

It might not be unprofitable to exhibit the facts and reasonings on which the above classification of epidemics is based; and to illustrate, by examples, the operation of the laws just stated. But restrained from this by the need of brevity, we proceed to observe, that we are not aware that any well characterized *meteoratious epidemic* has occurred within the United States during the last year. Whilst the influenza and cholera have prevailed in some parts of the Old World, neither of them has appeared in the New. The only diseases which, on account of their prevalence, have attracted general attention, in the period referred to, are a few of those arranged in the divisions of *contagious* and *infectious* epidemics.

In respect to contagious epidemics, the committee are not able to state the extent of their occurrence in the various cities and states of the Union. There are, however, in our possession some facts relating to the epidemic history of scarlet fever, measles, and small-pox, as they have prevailed in the city of New York, during a long series of years, which are, perhaps, worthy of recital.

The New York bills of mortality are, for the most part, complete from the commencement of 1805 to the end of 1847. For several years, so far as is known, prior to 1805, and from this period forward to the close of 1822, scarlet fever was very rarely met with, and measles and small-pox were comparatively infrequent. Between these two epochs, that is, during eighteen years, there were reported only 43 deaths from scarlet fever, 339 from measles, and 719 from small-pox. After 1822, these diseases slowly assumed an epidemic

character; and, in the course of twenty-five years, that is, from the beginning of that year to the end of 1847, there were 4,874 deaths from scarlet fever, 3,124 from measles, and 3,740 from small-pox. The progressive, though somewhat irregular, increase and decline of the annual numbers of the deaths from these disorders, is shown in the following table.

Table of the annual numbers of deaths from Scarlet Fever, Measles, and Small-Pox in the city of New York, from the beginning of 1805 *to the end of* 1847.

Years.	Scarlet fever.	Measles.	Small-pox.	Total.	Years.	Scarlet fever.	Measles.	Small-pox.	Total.
1805	4	—	62	66	1827	4	172	149	325
1806	4	—	48	52	1828	11	28	93	132
1807	2	1	29	32	1829	188	91	16	295
1808	4	64	62	130	1830	246	22	176	444
1809	9	2	66	77	1831	258	39	224	521
1810	1	2	4	7	1832	221	290	89	600
1811	—	2	117	119	1833	179	38	25	242
1812	—	9	21	30	1834	418	212	233	863
1813	1	35	2	38	1835	174	82	351	607
1814	1	15	2	18	1836	202	443	173	818
1815	—	18	94	112	1837	579	238	164	981
1816	—	19	179	198	1838	257	79	91	427
1817	3	20	14	37	1839	158	133	68	359
1818	—	18	19	37	1840	391	186	232	809
1819	5	10	—	15	1841	366	113	209	688
1820	5	74	—	79	1842	416	60	181	657
1821	3	109	—	112	1843	223	118	117	458
1822	1	1	—	2	1844	225	51	20	296
1823	2	117	18	137	1845	63	136	425	624
1824	3	100	394	497	1846	114	17	141	272
1825	10	53	40	103	1847	142	275	53	470
1826	24	31	58	113					

The great increase of the population of the city of New York, of late years, affords no explanation of these epidemic phenomena. The facts stated distinctly show that there arose, in 1823, that peculiar variety of epidemic meteoration which favours the diffusion of the contagious exanthemata, and especially of scarlet fever; and which, gradually augmenting in force, reached its height of intensity in 1837, in which year 579 died of scarlet fever, 238 of measles, and 164 of small-pox, making a total of 981 deaths from these diseases. Since 1837, the prevalence of the exanthemata has been slowly abating. In 1846 the deaths were reduced to 272; and in the following or last year, 1847, the number, though greater than in the preceding year, amounted to only 473.

It thus appears, that in the first twenty of the last forty-three years, scarlet fever was nearly extinct in the city of New York; and that measles and small-pox were sporadic; and further, that in the last twenty-three years, these fevers have prevailed to an extent and in a mode which characterize epidemics. In contemplating the gradual decrease of the exanthemata since 1837, may we not infer that, at a period not very distant, they will become as rare, in proportion to the population, as they were from 1805 to 1823?

In connection with these facts, we would notice a circumstance in the history of an *infectious* epidemic disease, which is deemed worthy the attention of those engaged in researches concerning the phenomena and laws of popular diseases. It is this; whilst the scarlet fever, measles, and small-pox were of infrequent occurrence in New York, the yellow fever prevailed several times epidemically in that city, and the fear of its annual visitation was never absent from the public mind. Since 1822, or, in other words, since the exanthemata have been prevalent, the yellow fever has not appeared as an epidemic in New York, or in any place north of Charleston.

From these facts it seems that yellow fever and the exanthemata owe their prevalence to very different varieties of epidemic meteoration. If this be true, is there not reason to apprehend that when the prevalence of scarlet fever, measles and small-pox shall have further declined or ceased, yellow fever will reappear epidemically in our great northern emporium and the neighbouring cities? The fact is remarkable, that the years, from 1804 to 1823, in which yellow fever prevailed in New York, are among those in which the fewest deaths are recorded from the exanthemata. The years referred to are 1805, 1809, 1813, 1819 and 1822. In the last of these years the yellow fever was more extensively epidemic than it had been since 1805; and there was but one death reported from scarlet fever, one from measles, and none from small-pox.

It must not be supposed, from what has been said, that the progressive development, duration, and transition of the meteorations influences which have favoured the prevalence of yellow fever and the contagious exanthemata in New York, are attributable to the operation of a general principle which everywhere governs and establishes a uniformity in the succession of epidemics, or, in other words, which illustrate the order of the epidemic prevalence of the diseases in question, as they occur in other localities, or in a different series of years in the same place. There appears to be no such

principle regulating the rise, progress, decline, and consecutive development of epidemics.

In cases in which a special form of epidemic meteoration reigns over many years, there are not unfrequently seasons in which its peculiar agency is for a time suspended, or so broken up as to allow of the intercurrence of other varieties of meteoration which, after prevailing for a period of a longer or shorter duration, totally disappear. Such intercurrences happened in New York in 1832 and 1834. In the warm months of these years the atmospheric condition, which had so long and actively promoted the prevalence of the exanthemata, temporarily gave way, and in its place was developed that peculiar meteorations influence to which are referable the ravages of the epidemic cholera. Of this disease 3513 persons perished in that city in 1832, and 971 in 1834.

Of the diseases arranged in the second class of epidemics, or those denominated *infectious*, the committee must limit their observations to those which have attracted most attention in the United States during the past year. But before passing to the notice of these diseases, it may be observed, that though intermittents, remittents, and dysentery, arising from the *mild species* of *koino-miasma*, have, as in former years, prevailed more or less extensively in the districts of country in which the atmospheric temperature and the geological formation and qualities of the earth's surface favour the generation of that poison, there is nothing in their history, known to the committee, worthy of being specially recorded. These disorders in their types, general characters and febrile phenomena appear to be essentially the same in every year, while in the extent of their prevalence and their diathesis they are strikingly influenced by the varying latent properties of the general atmosphere.

From the ravages of epidemic yellow fever, produced by the second or *malignant species* of *koino-miasma*, our country, with the exception of the cities of New Orleans, Lafayette and Mobile, has been exempt during the year 1847. The frequent though irregular periodical occurrence of that form of pestilence in our southern cities, and its occasional prevalence in our northern maritime towns, render everything concerning it peculiarly interesting to American physicians. Its epidemic relations to climate and soil, temperature and humidity, the source and composition of its infectious principle, the nature of the epidemic meteorations influence which favours its prevalence, its modifications, diagnostic phenomena, anatomical characters and treatment, are topics which challenge the researches of philosophical

minds; and as time only is required for their investigation, it is hoped that they will hereafter receive elucidation from inquiries conducted under the auspices of this Association.

In respect to the yellow fever of New Orleans of the last year, your committee are unable to make any original presentation of facts. In a communication received on the 28th ult., from a member of the committee, Dr. Harrison, residing in that city, we are referred for information on the subject to the *New Orleans Medical and Surgical Journal.* It appears from the last November number of that periodical, that it was estimated that between 20 and 25,000 cases of the disease occurred in New Orleans, and the neighbouring city of Lafayette, from the 3d of July to the 18th of October 1847, and that the number of deaths was 2,739. The greatest mortality occurred in September, in which month the deaths amounted to 1,044. In the number of the Journal now referred to, and also in that for January, 1848, are interesting articles on the subject; and as these are before the public, we shall only add that Dr. Harrison states, that the epidemic did not differ from others he had witnessed: "Except," he says, "in this: sulph. quiniæ was more liberally used than formerly, and generally with the best results, according to the information I have been able to obtain from those in whom I have confidence."

During the year in which this yellow fever epidemic occurred in New Orleans, or rather from the 19th December, 1846, to 18th December, 1847, there were, in that city, but few deaths from the contagious exanthemata, there being only 15 from scarlet fever, 38 from measles, and 27 from smallpox.* These facts are conformable to the general laws which govern the prevalence of these diseases, and to which we have before had occasion to advert.

In Mobile, the yellow fever prevailed in the summer and autumn of 1847 to a very limited extent. From an abstract, in *Wood's American Quarterly Retrospect*,† of Dr. Nott's paper on the subject, published in the *Charleston Medical Journal*, we learn that "the summer up to Aug. 1st, was the most temperate and rainy he had seen for 12 years, the thermometer but once reaching 89° F. It rained half the days in June, and 25 days in July, often in torrents; in the midst of these incessant rains the yellow fever commenced. From the first case (18th July) until the 1st September, the disease progressed very slowly, only about 60 cases occurring, 9 of which

* New Orleans Med. and Surg. Jour., Jan. 1848. † April 1848.

were fatal, and several of the latter were from vessels coming from New Orleans. Here we have evidence of the extraordinary *mildness* of the epidemic, and its extremely mild type in its incipiency. About Sept. 1st the disease began to spread rapidly, and during that month there were 37 deaths. In October only 22, the deaths probably not exceeding 1 in 15."

But of all the forms of *infectious* diseases, the one from which the greatest amount of mortality has occurred in most of the larger Atlantic cities of the North-eastern and Middle States, during the committee's term of service, is typhus, or, as it has been generally called, ship fever.

Though typhus is not perhaps as strictly entitled to the term epidemic as some other distempers, being never equally rife in the different classes of society, but mostly confined to persons dwelling in confined situations, in the midst of human filth, yet its prevalence is sometimes so extensive, and its diffusion so clearly owing to the agency of a peculiar atmospheric influence, that there is no sufficient reason for not considering it as occurring epidemically. That it conforms to the law of periodicity, which determines the recurrence and spread of certain other maladies, is shown by its history in various countries. Pursuant to that law, though it may never be absent from a city or district, it increases at times, and after raging for a season, declines like other epidemics. Dr. Alison says, in speaking of the contagious fever of Edinburgh, that "there have been three great epidemics of that disease in the last twenty-two years, beginning in 1817, 1826, and 1836, (the last of which has now nearly subsided,) each lasting nearly three years, and each of the last two affecting, I believe, nearly ten thousand persons."* Of the typhus of Glasgow, Dr. Davidson remarks "that a severe epidemic of one or two years' duration, is never succeeded by another until several years have elapsed."† Similar facts illustrate the epidemic character of typhus in other European cities.

On examining the records of deaths from typhus‡ for the last thirty-five years in the city of New York, it is found that the disease was epidemic in that period four times, viz.: in 1818, 1827–28, 1837, and 1846–47. In these years the increase of the disease was so remarkable, that there is no hesitation in pronouncing them epi-

* British and Foreign Medical Review, No. xxi. p. 27.

† Thackeray Prize Essay, p. 55.

‡ In enumerating the deaths from typhus, we include the deaths from what is called in the bills of mortality *typhoid fever.*

demic typhus periods. The fact now referred to was strikingly exemplified in 1837. In that year the mortality from typhus was 338, while that of the preceding year was but 117, and that of the following only 104. From this time, though the amount of mortality annually varied, there was no notable increase of deaths from typhus until 1846, when the number rose to 256; and the disease continuing to prevail and with increasing severity, the deaths in 1847 reached the frightful sum of 1396, to which should be added very many of 657 deaths from dysentery, a disease which, in a large proportion of the cases in the hospitals, was typhus fever.

The foregoing facts fully warrant the inference that the diffusion of typhus is favoured by a peculiar aërial influence which occurs periodically. Such an influence is sometimes very widely extended. It is said by Barker and Cheyne, in speaking of the epidemic typhus period of 1817–18, as quoted by Dr. Davidson,* that "it must be acknowledged that the simultaneous increase of the disease in Ireland, and on the Continent, leads to the inference, that whatever may have been its origin, an epidemic constitution prevailed over a great part of Europe during a series of years past." Now such an epidemic constitution has manifestly prevailed over the British Isles during the years 1846–47; and its influence, in its western direction, appears to have extended across the Atlantic ocean to the shores of our North-eastern States and the adjacent British Provinces.

But coincident with this wide-spread epidemic meteoration, were other causes more immediately influential in predisposing to typhus on both sides of the Atlantic. The more efficient of these causes, especially in Ireland, were famine, and the evils physical and moral, attendant upon it. Whilst starvation and disease were destroying thousands of the poor in that ill-fated land, multitudes of them, to escape from calamities so fearful, sought to ameliorate their condition by a removal to this continent. In no annual period in the history of emigration, has the number of foreigners, added to our population, equalled that of the last year. It has been estimated that about a quarter of a million of emigrants arrived in the United States in 1847.† Of this number, 160,134 landed at New York, and the remainder mostly at Boston, Philadelphia, Baltimore, and New Orleans. Thousands also entered our country by the way of

* Thackeray Prize Essay.

† It appears from the report of the Secretary of State to the House of Representatives, that the whole number of passengers who arrived in the United States during the year ending Sept. 30th, 1847, was 239, 480.

Canada and New Brunswick. A very large majority of those who landed at New York were Germans and Irish. It is stated by the New York Commissioners of emigration, that of the 129,062 passengers arrived at that port, from May 5th to December 31st, 1847, 53,180 were from Germany, and 52,946 from Ireland, thus showing that the emigration from the former country exceeded that from the latter.

The condition of the German and Irish emigrants prior to their embarkation, and during their transit of the ocean, was in most instances conspicuously different. Whilst the former were generally robust, and well provided on the passage with the means of subsistence, and observant of cleanliness and ventilation,—the latter were in most cases enfeebled from the want of sustenance, and on shipboard, destitute of supplies of wholesome food, depressed in mind, clothed in filthy garments, and crowded and confined in air rendered pestiferous by the excrementitious matters eliminated from their own bodies. In contrasting the hygienic circumstances in which the two classes of emigrants were placed, it is easy to account for the greater amount of sickness and mortality which occurred in one class than in the other. It is said, that of the admissions of emigrants into the hospitals and almshouse of New York, the Irish exceeded the German in the proportion of about one to nine or ten; and we are told, that the Irish in British ships suffered more than those in American.

The amount of disease and number of deaths which occurred in emigrant ships, while crossing the Atlantic, are appalling to contemplate. Many thousands perished on the voyage to the United States and Canada. In some ships bound to New York, from 20 to 30 died on the passage; and in many vessels destined to Canada, the deaths were from 30 to upwards of 100. From one ship, the Virginia, bound from Liverpool to Quebec, with 470 passengers, 158 of the number were buried at sea.

The Montreal Immigrant Committee, in their report for 1847, state, that "in no year since the conquest has Canada presented such fearful scenes of destitution and suffering." "The year 1847 has been unparalleled for the amount of immigration to Canada; near 100,000 souls have left the British isles for these provinces the past year,—over 5,000 of these died on their passage out, 3,389 at Grosse Isle, 1,137 at Quebec, 3,862 at Montreal, 130 at Lachine, and 39 at St. Johns, making in all at these several places 13,815. How many have died in other sections in Canada East cannot now be

known, nor, indeed, how many have perished in Canada West; but coupling all those who have perished with those who have passed into the United States, Canada cannot now number 50,000 souls of the 90 odd thousands which landed upon our shores. In sketching a retrospect of these terrific scenes, the Montreal committee forcibly remark—"From Grosse Isle, the great charnel house for victimized humanity, up to Port Sarnia—along the borders of our magnificent river, upon the shores of Lakes Ontario and Erie, and wherever the tide of immigration has extended, are to be found the final resting-places of the sons and daughters of Erin—one unbroken chain of graves, where repose fathers and mothers, sisters and brothers, in one commingled heap, without a tear bedewing the soil, or stone to mark the spot. Twenty thousand and upward have gone to their graves, and the whole appears, to one not immediately interested, 'like a tale that is told.'"

The disease of which the emigrant passengers, and in many instances, the officers and crews of ships, perished at sea, and of which a great number were ill on their arrival in the United States and Canada, was typhus in its genuine form. In some ships dysentery, small-pox and measles swelled the amount of mortality, and added to the number of sick that reached the ports of destination. From some ships upwards of 100 ill were landed at the New York quarantine station; and so great was the influx of sick and destitute emigrants, during the summer of the last year, that the public and private hospitals and almshouse were filled to overflowing, and sheds and tents were erected for their accommodation. In stating these things we cannot withhold the grateful remark that, in providing these accommodations, and furnishing other means of comfort, the same spirit of benevolence was manifested, which animated our countrymen in sending ships laden with supplies of food to the famishing in Ireland.

The number of persons admitted into the marine hospital at Staten Island, in the year 1847, was 6,932. Of this number, 5,277 were sick with fever, and 662 died. In that hospital, 2,229 cases were registered as typhus fever, of which 457 died, and 3,020 as remittent and typhus remittent fever, of which 205 died. There is reason to believe that many of these latter cases, landed from emigrant ships, were typhus; but excluding these, the total number of deaths from typhus at the quarantine hospital and within the city of New York, was scarcely less than 2,000.

But besides those admitted into the hospitals immediately after

their arrival, or who sickened in the city and were sent to the hospitals, there were many who became victims of the disease at places, more or less distant, in the countries over which they were dispersed.

The effect of introducing so great a multitude of persons affected with typhus, or imbued with the *fomes* of the disease, into the midst of the resident population, could not be otherwise than to excite alarm, and, in fact, to extend the disease. Wherever the emigrant sick were congregated in masses, or collected in small numbers, or wherever individual cases were confined in small, unclean, and ill-ventilated apartments, the disease frequently attacked those who were in constant or occasional communication with them. From such communications nurses, physicians, friends, and transient visitors to the sick, have suffered in numerous instances. Of the medical officers in the New York and neighbouring hospitals and almshouses, not less than eight, mostly in the vigour of early manhood, and while engaged in active duties, giving promise of future distinction in the ranks of the profession, have, during the epidemic, been numbered with the dead.*

But though the disease among residents has, in most instances, been traceable to exposure to the poison emanating from the persons and effects of emigrants, there is reason to believe that it has, in some instances, originated *de novo* in the close and sordid dwellings of the poor in our large sea-port towns; and that the mortality from the disease has been augmented from such sources. This statement derives support from the circumstance, that the diseases prevalent in our northern Atlantic cities for the last two or three years, and especially in New York, have manifested a decided adynamic diathesis, a circumstance indicating, it is believed, the existence of a meteorations influence, which not only develops a predisposition to typhus, but favours the production of the poison of the disease.

As to the mode in which the late typhus, or ship fever, has been propagated, the committee are not disposed to enter into an elaborate disquisition. The question whether typhus is diffused by a specific contagious principle, or by a vitiated human effluvium, may be

* Dr. Harrison states, in his letter before referred to, that "with regard to the ship fever, (at New Orleans,) it has not been complicated with or modified in any way by the yellow fever. It has been entirely confined to the hospitals, no persons that I have heard of being attacked out of doors. Several of the visiting physicians, Sisters of Charity, students, and others of the Charity Hospital, have been attacked, and some have died; but the disease has been confined to the cases I have now mentioned."

regarded as theoretical, and therefore affords grounds for a diversity of opinion. The fact that patients affected with the disease, in certain conditions, are *foci* of the typhus poison, must be granted by all observers. But the admission of this fact does not necessarily impose the obligation to consider the poison a specific *virus*, analogous in its origin and distinctive properties to that of small-pox or measles; and that it is not so, is the view taken of it in this report. As here contemplated, it is the product of the chemical changes which take place in the excretions or *debris* of the body in health and disease, accumulated in close apartments,—a poison more frequently and readily generated by the exhalations and other excretive matters of typhus patients, than by those of persons suffering under other forms of disease, or in the state of health,—a subtle aëriform principle, appropriately denominated *idio-miasma*, one of the generic forms of infection; and hence, typhus, instead of being classed among the *contagious* epidemics, is arranged among the *infectious*. In this theory is found a ready explanation of the origin and prevalence of typhus in jails, hospitals, ships, and the houses of the poor; and, also, of the mode in which cleanliness and ventilation arrest and exterminate the disease. These hygienic means, so effective against the general propagation of the disease in the upper classes of society, seem clearly to intimate the true nature and source of the typhus poison.

So entirely were the symptoms and course of the ship fever, as it occurred in New York, correspondent with the descriptions given of typhus in the standard works on Practical Medicine, that nothing in detail need be said in respect to them. It is sufficient to observe, that among the emigrants the malady was marked by great prostration at an early period of its development, requiring liberal administrations of the most efficient means of stimulation and support. Petechiæ were more general than in some former years. Though sometimes running to a fatal issue under a simple form, the disease, in its graver varieties, was generally attended with cerebral, thoracic, or abdominal complications. Erysipelas, often assuming a phlegmonous character, occurred in many cases, and frequently resulted in extensive sero-purulent deposits. Fluid collections of this kind were most common in the parotid glands, eyelids, and scalp. Secondary attacks happened in a few instances; and among the sequelæ was noticed an affection of the eyes of an amaurotic form.

As to the rate of mortality among the sick in the various hospitals of the United States and of Canada, there has been a great disparity;

the differences depending on circumstances, in many cases, beyond the reach of control. In the New York hospital, as it is stated in the last annual report of the governors of that institution, "the number of typhus fever cases treated during the year, was 1,034; very many of them cases of the severest form of the disease, and demanding far more than the ordinary assistance of physicians and nurses. Of this number 136, or a little more than thirteen in the hundred, have died. This result, though it appears to be a large proportion, bears a very favourable comparison with the statistics of any other sanitary establishment under similar circumstances of disease, and affords a very striking contrast to the terrible mortality from the same cause among the recent emigrants from Europe in other parts of the continent." But though the amount of mortality has been influenced by the circumstances in which the sick in hospitals were placed, it is to be noticed that the proportion of deaths has been greater among those in the higher than among those in the lower ranks of life, a fact generally observed in the typhus epidemics of Europe.

With these remarks on the typhus or ship fever of the last year, we might close our report, were it not that a question of more than ordinary interest, relating to this subject, demands from us a careful examination,—a question on which the profession in this country and in Europe are divided, and which, it is thought, the phenomena of the recent typhus epidemic, added to the facts afforded by former prevalences of the disease, have largely contributed to elucidate. It needs hardly to be stated that we refer to the question of the identity or non-identity of *typhus*, and a form of disease entitled *typhoid fever*. That there are two forms of fever, bearing these names, which closely resemble each other, and yet which are essentially distinct in their nature, is alleged by some of the most renowned pathologists of the age. The leading distinctive features of the two diseases are, it is affirmed, intumescence and generally ulceration of Peyer's glands, and certain other morbid conditions, in one of them, and the total absence of these phenomena in the other.

Now if, in fact, two such diseases exist in nature, the committee, in what they have submitted concerning epidemic typhus, have omitted to distinguish them, or, in other words, have committed an error in confounding distempers specifically dissimilar; for everywhere have the two forms of disease been associated and looked upon as one and the same malady. The attempt to rectify such an error, if such have been made, would involve the necessity of giving the history

of two epidemics, occurring contemporaneously in the same localities, one to bear the title of *typhus*, and the other of *typhoid fever*, and of sustaining the distinction between them,—a labour not achievable in the hands of your committee.

But it is believed that no such distinctive disorders can be recognized in nature; that the two forms of disease have not respectively a development which is peculiar or *sui generis;* that the disorders in question do not, as distinct specific affections, occur promiscuously, or side by side, in the same circumstances, from the same causes, among the same class of persons, in the same hospitals, ships, jails, and private dwellings of the poor. The grounds on which we venture to express these opinions we beg leave respectfully to state to the Association; and we do this with the more freedom, as the question of the identity or non-identity of typhus and typhoid fever should and will continue to attract attention until a unanimity in regard to it is attained among the great body of enlightened physicians.

As the two forms of disease in question are fevers, and as the problem to be solved is, whether they are, or are not, one and the same malady, it will not be improper to glance at the means by which fevers are distinguished. It is much to be deplored that the distempers comprised in the class *febres* have not been more perfectly disentangled, and their specific relations to one another definitively settled. That this has not been done, is owing, not to any want of labour or talent devoted to the work, but to the difficulties and obscurities inherent in the subject.

The means of diagnosis in fevers are threefold; 1st, their efficient causes; 2dly, their symptoms; and 3dly, the alterations produced in the organism discovered after death.

In regard to the efficient causes of fevers, it is evident that a knowledge of them, for the purposes of diagnosis, is of the highest value; for were they in all cases ascertainable, they would furnish not only a ready and correct diagnosis, but a solid basis on which to rest a natural classification of fevers.

In respect to the symptoms, in the absence of a knowledge of the causes of fevers, it is clear that they are the only means by which, during life, one kind of fever can be distinguished from another. But in forming a diagnosis by these means, the mode of proceeding is in some respects peculiar. Whilst the acute phlegmasiæ and most other violent local diseases are generally cognizable, by their rational and physical phenomena, immediately, or at an

early period after their development, it is frequently otherwise in the case of essential fevers. These diseases are not so commonly distinguishable at first sight. In order to collect the facts from which their differential diagnosis may be deduced, it is often necessary to observe them carefully, sometimes in more than single cases, during the space of several successive days. Moreover in the phlegmasiæ, the diagnostic phenomena are for the most part local, being confined to the organs immediately affected. In fevers it is not so; the diagnostic signs are spread throughout the economy, and are slowly and successively developed, and not until a certain number or variety of them have come fully into view, can a specific fever be recognized.

Of the anatomical alterations produced by fevers, it may be said that such of them as occur in the internal organs, and which are discoverable only after death, have no absolute claim to the character of diagnostic phenomena, since none of them are invariably present in the same specific fever, and many of them are found in different kinds of fever. There are, however, in some fevers, certain alterations in the organism so frequently revealed by autopsic examinations, that they may not improperly be admitted among the accessory means of diagnosis, especially in cases in which neither the causes nor the symptoms during life are sufficient to elucidate their distinctive nature.

From these general observations, we proceed to the question of the identity or non-identity of typhus and typhoid fever. And in doing so, leaving out of view for the present the history of their causes, we shall inquire:

1st. Whether these diseases differ so much in their symptomatology as to enable us to characterize them as distinct distempers?

2dly. Whether the morbid anatomy, and particularly the intestinal follicular lesions observed after death, indicate the diseases to be specifically different?

1. *Of the Symptomatology of Typhus and Typhoid Fever.*—In essential fevers there are a few symptoms which are common to them all; and to these symptoms are added, in particular fevers, certain phenomena which arise in the progress of the morbid movements that mark their special form and character. Now among the leading symptoms, mostly of the latter description, observable in typhus and typhoid fever, are the following: great prostration of the sensorial and muscular energies, cephalalgia, disagreeable dreams,

somnolence, delirium, coma-vigil, deafness, aphonia, stupor, subsultus tendinum, picking of the bedclothes, and at imaginary objects in the air, small, frequent and feeble pulse, pungent heat of skin, petechial eruptions, sudamina, dry and brown or black fur on the tongue, accumulations of dark sordes on the teeth and gums, epigastric pain, tenderness of the abdomen, gurgling in the intestines, diarrhœa, meteorism, hemorrhage from the nose and bowels, and retention of urine.

Though such are the phenomena which occur in typhus and typhoid fever, yet all of them may not present themselves in every case; but it is observable that many of them, and especially those attendant on the last stage of fatal cases, are developed consecutively and in various degrees of force, in every individual example of both diseases.

Now it is among the phenomena enumerated, that we must seek for the diagnostic symptoms of the two diseases, if any such phenomena exist. If the diseases be specifically different, they should respectively present certain pathognomonic or characteristic symptoms. If they possess no such symptoms, nor any other diagnostic phenomena, they are obviously not distinct disorders. But let us examine the symptoms with a view to ascertain how far they indicate diseases different in their nature.

It is generally admitted that there is much variety in the symptoms of the premonitory and successive stages of typhus; and a similar variety, it is acknowledged, occurs in the corresponding stages of what is called typhoid fever. The incipient symptoms are often, for the most part, precisely the same in both maladies; and in whatever subsequent parallel stages we examine the two disorders, we find no signs by which to distinguish them as different *species* of fever. If in the several periods or stages of typhus we observe particular combinations of symptoms, we find the same combinations in the several periods of typhoid fever. Phenomena which are usually present in typhus are sometimes absent, or but slightly developed; and the same is true in typhoid fever. The constitutional phenomena in the latter disease are grouped, and transformed in the same manner as are those which occur in the former. So far then as the general symptomatology of these diseases enables us to form a judgment, they are essentially the same. This conclusion, it is believed, might be sustained by an appeal to numerous cases recorded as genuine examples of typhus and typhoid fever.

The phenomena on which the advocates for the distinctive nature of typhoid fever mainly rely in forming their diagnosis, are, it ap-

pears to us, totally insufficient to establish the *specific* character of the disease. The more important of these phenomena are lenticular rose-coloured spots on the trunk, chiefly on the anterior part of the abdomen and chest, sudamina, gurgling in the right iliac region, tenderness of the abdomen, diarrhœa, meteorism, enlargement of the spleen, and epistaxis. But which of these phenomena does not occur in typhus? In regard to the size, colour, situation, and time of appearance of the eruption, there is nothing remarkable in the one disease which is not equally so in the other. The eruption in typhus, though among the characteristics of the disorder, is variable in size and colour; sometimes it is of a rose hue, but frequently violet or purple, at one time persistent under pressure, and at another evanescent. Such were the varieties of the eruption in the cases of typhus, treated under the direction of one of your committee, in the New York Hospital in June, 1840, and at various times in subsequent years,—cases of the identical nature of which there was not the slightest doubt, all of them having originated from the same source; namely, the fever poison *idio-miasma*, generated in crowded emigrant ships. In no respect did the eruption differ essentially from that which occurs in dothinenteritis or typhoid fever. As to sudamina, they are common to various states and kinds of disease.

It is well known that age, constitution and modes of life, climate, season, and especially epidemic influences exert a powerful agency in modifying the symptoms of diseases; and there is good reason to believe that to such causes, the varying forms and character of the eruptions in essential fevers are in a great degree attributable. In some seasons the eruption in typhus is absent in very many cases; and moreover, it is sometimes wanting in cases in which the Peyerian glands are extensively diseased. Dr. Elliot, one of the physicians of the Bellevue Hospital, reports an instance in which "Peyer's plates were much enlarged and deeply ulcerated," and in which "there was no eruption, nor any diarrhœa, during the whole progress of the case."* Are not the rose-coloured spots of typhoid fever, the primary forms or conditions of the petechiæ or maculæ of typhus? Professor Clark, one of the physicians of the hospital just named, says, that "in the proportion of about one-half of the typhus fever patients, a *rose-coloured* eruption occurs on the body, which frequently in the progress of the fever assumes a petechial appearance.†

* Annalist, vol. ii. p. 249; edited by William C. Roberts, M. D., New York.

† Transactions of the Medical Society of the State of New York, vol. vii. p. 59, 1848.

To elevate the shades of colour, and the varieties of form of the eruption to the rank of diagnostic phenomena, indicative of distinct diseases, when the more striking and important phenomena are unequivocally expressive of an identity of disease, is a refinement which, it appears to us, no clinical observer can regard with favour.

Nor are the diarrhœa and gurgling in the right iliac region worthy of consideration, as signs by which the affection called typhoid fever may be distinguished as a specific disease, or one different from typhus. These phenomena occur in cases in which the general symptoms of the two forms of disease, arising from disturbance of the nervous, vascular, and secretory functions, are the same, and which therefore indicate the affections to be one and the same. Gurgling in the bowels is common to many diseases; and as to diarrhœa it frequently occurs in fevers in which there is no follicular disorder of the intestines; and though it is generally present in dothinenteritis, it is sometimes absent. Dr. Swett, late President of the New York Medical and Surgical Society, so well known for his devotion to pathological studies, in discoursing on the cases of ship fever, treated at the New York Hospital, at a meeting of that society on May 1st, 1847, stated that "in the case in which the ulceration was most extensive, there had been no diarrhœa; in the other case with ulceration less in amount, though still considerable, the diarrhœa had been profuse."* Similar remarks are applicable to the meteorism and tenderness of the bowels; they frequently occur in disorders different in their character, and are occasionally wanting in typhus and typhoid fever. With respect to epistaxis and delirium, they are totally destitute of any claim to the character of signs denoting a specific difference between the two forms of disease in question.

But though the rose-coloured spots, the diarrhœa, and gurgling in the bowels, the meteorism, tenderness of the abdomen, epistaxis, and delirium, taken severally, or any two or three of these phenomena combined, do not enable us to distinguish typhus fever from the typhoid affection of Louis, still, it may be asked, do they not, when collectively present, that is, when grouped together in the same case, indicate these diseases to be essentially different? In regard to this question it is to be observed, that, in discriminating fevers, the ablest clinical physicians place more reliance upon the uniform constitutional phenomena, as manifested in the morbid conditions of the nervous, vascular, and secretory organs, than upon those phenomena

* Annalist, vol. i. p. 389.

which are local and contingent. The former are esteemed the efficient, and the latter the accessory means of diagnosis. Are not intermittent and remittent fevers known and distinguished by their types and general phenomena, and particularly by the modes in which the phenomena are combined or succeed each other? In these forms of fever there is often inflammation or engorgement of particular organs, and yet, notwithstanding such complications, each of these diseases is readily recognized and distinguished. Even in yellow fever, the course and form of the general symptoms, springing from derangement of the nervous and vascular systems, are vastly more important as indications of the specific nature and distinctive character of the disease, than the symptoms immediately connected with the gastro-intestinal lesions. These latter, it is true, are sometimes valuable subsidiary means of diagnosis; and, indeed, are occasionally essential aids in deciding in doubtful cases; but, aside from the general phenomena, they would scarcely suggest the idea of yellow fever; whereas, the constitutional symptoms are, of themselves, sufficient, especially when the disease is epidemic, to show the true character of the malady. The same remarks, in regard to the symptoms depending on special organic lesions, are applicable to every other essential fever. In the contagious exanthemata it is otherwise. In these, the eruption is, with very few or no exceptions, a constant occurrence, and is therefore regarded as one of their leading diagnostic phenomena.

Now if we examine the phenomena of typhus as described by English writers, and compare them with those of typhoid fever as described by M. Louis and others, are we not warranted in giving to the general symptoms a higher value as diagnostics of the special nature of these diseases, than to those which indicate an affection of the glands of Peyer? Is not typhus distinguished in all cases by the character and train of the general symptoms, rather than by any disturbance of the abdominal organs, indicated by tenderness under pressure, diarrhœa, gurgling in the right iliac region and meteorism? And is not the same true of typhoid fever? That such is the fact, in respect to the latter disease, there can be no question; for Louis and others have recorded cases as typhoid fever in which the symptoms of follicular disease of the bowels were obscure or not conspicuous.

Idiopathic fevers, then, are distinguished by the kind and character of their general symptoms, and by the mode in which these are grouped and successively developed. In comparing fevers with one

another, the order of the occurrence, as well as the peculiarity of all the phenomena, should be observed. When this is carefully done, there is generally no difficulty in discriminating particular fevers. All cases of fever are to be considered of the same nature in which the constitutional symptoms occur in the same order, and agree in their general features. The local, contingent, and minor symptoms, as well as the variations in the mode of attack, violence and duration of the morbid phenomena, indicate modifications of the disease, and nothing more. A physician practically versed in the diagnosis of fevers, on visiting the wards of a hospital in which the various species of essential fevers are assembled, will distinguish each particular kind of fever, not by tenderness of the abdomen, gurgling in the bowels, diarrhœa, and epistaxis—for these phenomena may or may not be present in fevers unlike each other—he will found his diagnosis on the type, and general course and peculiarity of the phenomena manifested in the nervous, vascular, and secretory functions. In individual cases, in which the type and characteristic symptoms of a special form of fever are not as fully and clearly developed as is necessary to settle the diagnosis, he will await their occurrence, inquire into the etiology of the disease, and avail himself of the light thrown on the nature of the malady by the occasional or contingent symptoms. Thus, in yellow fever—a disease usually well marked and distinguishable by a train of general symptoms, cases occur in respect to which a doubt may exist as to their true nature, until the appearance of black vomit, an event in itself of no value as a diagnostic of a specific form of fever, except when it concurs with certain diagnostics presented by the general system.

Now in typhus and the typhoid fever of Louis, the morbid phenomena are so correspondent in the sensorial, vascular and other functions, and are so similarly catenated or related to one another from their accession to their termination, that the attempt to assort and group them, so as to make them express two different diseases, is a labour which, it appears to us, must fail to show any distinction which is found in nature and cognizable by practical minds.

If such be a just view of the subject, in what light are we to regard the phenomena considered by Louis and others, as establishing a specific difference between the two forms of disease in question? To say nothing of the rose-coloured spots, delirium and epistaxis, are not the meteorism, tenderness of the abdomen, gurgling in the intestines and diarrhœa, occurring in fever, simply indicative of abdominal derangement, in the same manner as cough, expectoration, and cer-

tain auscultatory signs denote a pulmonary complication, or as injection of the adnata, intolerance of light, headache and delirium, show encephalic disorder? The principal anatomical lesions in typhus are found in the three great cavities; and there are no reasons that would warrant the forming of a special disease of those cases in which abdominal symptoms are prominently developed, which would not equally justify the creation of new diseases of cases in which pneumonic and cerebral symptoms are predominant. If the term *abdominal* typhus, applied by the German physicians to dothinenteritis, be appropriate, it may not be improper to apply the terms *thoracic* and *cerebral* typhus to those varieties of the disease in which the lungs and brain are the organs that chiefly suffer organic changes. These terms, so used, import special complications of typhus, but not distinct diseases.

That every case described by Louis as typhoid fever was genuine typhus is, perhaps, doubtful; but that most of his cases in which he found, after death, follicular ulceration of the bowels were not that disease, he has, we think, failed to show by any diagnostic phenomena. Had no autopsies been made, the cases would have been considered, by every pathologist, as simple modifications of the typhus of England and other countries. In searching for novelties in pathological anatomy, it should be borne in mind that the evidence for and against the theory of the essential nature of fever vastly preponderates on the side of the former; and, consequently, all anatomical lesions are to be considered contingent or secondary. The anatomical alterations in typhus and other kinds of fever sometimes vary so much in different cases, that were one called upon to decide on the nature of the disease in a particular case, by inspection of the body after death, it would frequently be difficult, and sometimes impossible, to say of what *species* of fever the patient died. Now such an embarrassment, in forming a diagnosis, rarely occurs in cases in which the symptoms, during the normal course of the disease, are carefully observed. In the phlegmasiæ proper, a post-mortem diognosis is, in general, not left in doubt, but is promptly and certainly attained.

Upon the whole, it seems to us, that the ingenious attempts which have been made to establish a specific distinction between typhus and typhoid fever, by an analysis of the *symptoms*, have yielded no other profitable result than a lucid exhibition of the modifications which genuine typhus assumes under different circumstances of temperament, habits and modes of life, climate, &c. In no other light

can we regard the able researches on the subject, by Louis and numerous other pathologists, in Europe and America.

2. *Of the Morbid Anatomy of Typhus and Typhoid Fever.*—As, then, the *vital phenomena*, observed during the progress of the two forms of disease in question, lead to the conclusion that they are not specifically distinct in their nature, it seems that the opinion, that they are so, has arisen from the discovery of dothinenteric lesions in one form of the malady and not in the other. The theory which localizes the cause of fever in the stomach and intestines, so fashionable in the last thirty years, is obviously the source to which may be traced the distinction which is made between typhus and typhoid fever. Stated in a brief form, the theory, in relation to these diseases, is explicitly this; a fever with ataxic or adynamic symptoms in which the glands of Peyer and Brunner are tumefied and ulcerated is typhoid fever; and that a fever attended with similar constitutional phenomena, and in which those glands are not diseased, is not typhoid, but some other species of fever. That Louis employs the fact of the non-existence of dothinenteric lesions in febrile cases, to prove that the disease is not typhoid fever, is shown in his work on yellow fever, in giving the diagnosis of which he specially distinguishes the two diseases anatomically, by the normal condition of the intestinal glands in one of them, and the constant alteration of them in the other.

That there is a great and fundamental error in the doctrine which makes a specific difference between the diseases to which our inquiries relate, may, we think, be shown by adverting to a few of the anatomical facts and general arguments which bear directly on the subject.

If a diseased state of the agminated and isolated glands of the bowels constitute the peculiar and essential *anatomical character* of typhoid fever, then certain other maladies considered by every observer as different in their nature, should be regarded as identical with that disease; for there is abundant evidence to show that in many instances of the disorders referred to, those glands are inflamed, tumefied or ulcerated.

It must here be noticed that by the term *anatomical character* of a disease is meant, according to Louis, a morbid condition of organic lesion which invariably occurs in the same disease, and which, with certain other phenomena, distinguishes the disease from all others. Thus, in speaking of yellow fever, he says, "The red or black mat-

ter found in the stomach and intestines, not having been found *in all the cases*, it cannot be considered an *anatomical character* of that disease." But he adds, "it is not so with the alteration of the liver which was more or less exactly the same *in all the cases*, and which for *that reason* ought to be considered as the *essential* anatomical character of the yellow fever of Gibraltar of 1828."

Now, if we use the term *anatomical character* in the rigorous sense in which it is employed by Louis, are we not bound to consider every fever in which Peyer's glands are diseased or ulcerated as typhoid fever? No special form of lesion of the intestinal glands, analogous to the special form of lesion of the skin in small-pox, is described as distinctive of the typhoid affection, for every morbid condition of them, except perhaps the tuberculous, is recognized in the disease.

The truth is, disease of the glands of Peyer and Brunner, is in none of its forms, in the strict sense of Louis, an anatomical character of any one species of fever. It occurs in disorders unlike in their causes, and dissimilar in their character. It occurs occasionally in the different kinds of *koino-miasmatic* fevers, and also, now and then, in the contagious exanthemata. It occurs especially and most frequently in *idio-miasmatic* or genuine typhus, and in febrile maladies which, in their progress become adynamic, or, as it is usually and properly said, *typhoid*. It occurs more generally in typhus, in some years, and in some localities, and countries than in others; and when it occurs it is an effect or complication, and not the cause of the febrile disturbance of the system.

If these statements be correct, and that they are so, might, we think, be established by abundant testimony, there are no solid reasons for considering the affection of Peyer's glands a feature distinguishing the typhoid fever of Louis from the typhus of England and other countries. We have already shown that these diseases are so similar in their symptoms, that they cannot by these means be rationally characterized as different species. Whatever variety of forms they exhibit in their general or local phenomena, they scarcely ever fail to manifest a unity of type and character; and consequently they should be regarded as the same disease. Indeed, as we have said before, were it not that post-mortem examinations had revealed a lesion of Peyer's glands, there never would have been a question as to their identity.

With all the light which modern pathological anatomy has shed on the nature and complications of fever, and with all the aid afforded

by researches, directed to the elucidation of the connections between the symptoms of fevers, and the structural alterations which occur in this class of diseases, can it be determined with a degree of certainty, approaching the exactness with which we are able to announce the existence of a pulmonary or cerebral complication, that the glands of Peyer are diseased in a given case of fever? A high degree of probability that they are affected may be inferred from particular symptoms; but after all, nothing but an autopsy can establish the fact.

That dothinenteritis occurs in genuine typhus is proved by the concurrent testimony of many physicians, who have enjoyed the most extensive opportunities of studying the disease, in all its forms and varieties of complication, and whose learning and talent for observation entitle their opinions to implicit confidence. While, on the other hand, it is shown by their inquiries that the intestinal glands are frequently affected in typhus; it, is on the other, demonstrated that in the form of fever denominated typhoid, the follicular disease of the bowels is sometimes wanting. To cite all the proofs which might be adduced in support of these remarks, would require wider limits than the present occasion affords. The statement of a few facts, bearing on the points in question, will sustain what a greater number could not render more evident. And first, let us advert to the evidence of some European authorities.

In no country is typhus more prevalent than in Ireland. The disease is there seen in all its varieties, symptomatic and anatomical; and it is to the enlightened physicians of that country that we are indebted for much valuable information in relation to the nature of the disease. Dr. Kennedy, in giving an account of the typhus which prevailed in Dublin in 1837–38, says: "The only post-mortem appearance that was at all constant, was congestion of the vessels of the membranes of the brain."—"But if this epidemic typhus was not characterized by any uniform or constant pathological changes, it was very remarkable for the almost total absence of those abdominal lesions which have been regarded by some as the invariable attendants of typhus fever. Indeed, in this respect, this epidemic affords a striking and conclusive refutation of the false and hasty generalizations of the French pathologists on this subject. In this respect, also, it differs altogether from the epidemic fever of 1826 (which the writer had an ample opportunity of investigating while in charge of fever patients, supported at the expense of the government, at the Meath Hospital that year), in which in a *large proportion*

of the post-mortem examinations made by him, more or less disease of the glands of Peyer was found."* The typhus epidemics here brought into contrast by Dr. Kennedy, happily illustrate a well known law of epidemics, namely, that the same popular disease varies in its form and anatomical lesions in different years and seasons. There can be no question that the two epidemics of which he speaks were essentially the same in their nature, and the difference in the condition of the intestinal canal in the two epidemics was incidental, certain influences in 1826 operating to produce "in a large proportion" of the cases, "more or less disease of the glands of Peyer;" whereas, in 1837–38, the analogous modifying influences occasioned scarcely any organic changes in the bowels, but chiefly a different complication, "a congestion of the vessels of the membranes of the brain."

Dr. M'Cormac, of Belfast, who evinces in his work on fever great familiarity with the diseases of Ireland, after minutely describing the various changes which take place in the aggregated and solitary follicles of the intestines, remarks: "This exanthem, if we may call it so, does not present the regular phases seen in small-pox; it may exist during the greater portion of the disease, and even after the fever has terminated." And he adds, "after what I have said, I need hardly repeat again, that together with its results, it is only an occasional contingency in fever, and seemingly more frequent on the continent than in this country—from what cause, however, if it be this, I do not pretend to say."

Dr. Stokes, of Dublin, than whom there are few physicians more capable of arriving at correct conclusions on pathological subjects, regards "typhus as an essential fever which affects in an especial manner in different cases, and *during different epidemics*, either the head, the chest, or the abdomen." He alleges that "the ulcerations of the intestines so much insisted upon by the French pathologists, are neither of constant occurrence, nor are they characteristic of the disease; in one epidemic they are found on dissection, much more frequently than in another."† Dr. Graves, the able colleague of Dr. Stokes at the Meath Hospital, entertains the same view of the nature of typhus.

In accordance with these opinions, are the extensive observations

* Medical Report of the House of Recovery and Fever Hospital, Cork Street, Dublin. By G. A. Kennedy, A.M., M.D., Dublin, 1839.

† Medico-Chirurgical Review, No. 81, p. 71.

made in England, recorded in the writings of Drs. Hewet, Tweedie, Copland, Southwood Smith, Marshall Hall and others. All these concur that the glands of Peyer are frequently the seat of anatomical changes in typhus.

Similar investigations in Scotland have established the same facts in regard to the pathological anatomy of the disease in that country. Dr. Davidson in his Thackeray Prize Essay on typhus fever, gives a table showing the number and kinds of lesions observed in the post-mortem examinations of sixty-three eruptive cases admitted into the Glasgow Fever Hospital, from May 1st to November 1st, 1839, from which it appears, that enlargement of Peyer's glands and ulceration of the intestines were present in many cases.

These are but a few of the evidences of the occurrence of dothinenterite lesions in the typhus of Great Britain and Ireland. But it may be said that the pathologists of these countries confound diseases which are specifically different; and that this is owing to their mode of studying the phenomena not being so minute and philosophical as the method pursued by the physicians of France. If the French make distinctions where the English do not, are we to accord to the former superior powers of discrimination? The English, Scotch, and Irish physicians have given evidence of talent and industry in the investigation of febrile pathology not surpassed, we think, by the medical men of any country. They have patiently examined the grounds upon which their continental brethren have drawn a line of distinction between typhus and typhoid fever; and, having done so, they deny that there is any foundation in nature for it. Dr. Davidson who, it is believed, expresses the general opinion of British physicians, says, "would it not, therefore, be refining our classification beyond all precedent, to separate typhus and typhoid fever with two species, where it has been shown that the symptoms in both are the same, or very nearly so, that they have nearly the same laws, as far as these have been ascertained; that the severity of the symptoms in both is not in proportion to the lesions of the intestinal follicles; and that the other complications of both are similar, although *various in the same place at different periods*, while the only characteristic in dispute has been acknowledged not a constant, and therefore not a necessary element for the existence of the disease."*

Such, then, being the opinions of physicians practising in the

* Thackeray Prize Essay, p. 80. Appendix, British and Foreign Review, No. 22.

British Islands, it becomes a question of curious interest, if nothing more, to learn what impressions have been produced on the minds of those who, conversant with the typhoid fever of Paris and other continental cities, have personally compared this disease with the British typhus. Dr. Lombard, of Geneva, so often quoted on this subject, during his visit to England, Scotland, and Ireland in 1836, examined several cases of typhus, two in Dublin, and one in Glasgow, and finding the symptoms similar to those of the typhoid fever of the Continent, with which he was familiar, expected to find after death the usual dothinenteric lesions; but, on examination, to his great astonishment, no such lesions were found. He says, "in the whole course of my experience I have met with nothing which has surprised me more than this occurrence; I had been for years engaged in the study of typhus fever, and for years my almost daily experience in the dead-room led me to associate certain lesions of the alimentary canal with the symptoms of this disease, when suddenly I find myself assailed by a new experience exactly contradictory of my former; nor was my new experience unconfirmed by that of the Glasgow or Dublin physicians." With such facts before him, to the question, "whether the two diseases are different or the same?" he answers: "I cannot allow that they are specifically distinct, and consequently I am almost forced to give up the opinion that the local changes of structure are of paramount importance in causing or producing the symptoms that accompany this type of fever."* Though Dr. Lombard subsequently resumed the opinion that the two diseases are different, it appears to us he did so without sufficient reasons.†

In the following year, 1837, Dr. Staberoh, of Berlin, made a visit to Great Britain and Ireland, and for six months devoted himself to the study of the fevers of those countries. His intimate acquaintance with the typhoid fever of Paris especially qualified him to compare the diseases in question; and, after doing so, he concluded, that though in many cases the British typhus wanted the follicular lesion of the bowels, the disease was the same as the typhoid affection of the continent.‡

To the above authorities in favour of the identity of the two forms of disease, we must not omit to add that of M. de Claubry, whose able and elaborate investigations of the subject were published in Paris in 1844. His assemblage of facts, and the inferences he draws from them, seem scarcely to admit of being rationally controverted.

* Dublin Journal of Med. Science, vol. x., p. 19, 22, 23.

† Ibid., p. 101.

‡ Ibid., vol. xiii., p. 426.

It thus appears that there are many of the more eminent pathologists of Great Britain, Ireland, and other European countries who concur in the opinion that no essential difference exists between typhus and typhoid fever. Their observations, however, establish the fact, that dothinenteritis frequently modifies the character of typhus; and that this complication is more common in some seasons and some countries than in others—a circumstance referable to causes which, though obscure, are clearly adventitious.

The necroscopic researches in this country have afforded no satisfactory evidence of there being a specific difference between the forms of malady under consideration. On the contrary, the facts already spread before the public, as well as those daily accumulating in our hospital registers, when carefully analyzed and compared with the phenomena of the typhus and typhoid epidemics of other countries, show that these diseases are one and the same. Cases presenting the same general features, the same nervous, vascular, eruptive, and other phenomena, and springing from the same efficient cause, are found to differ merely in their complications, one case exhibiting after death various anatomical changes, particularly alterations of the glands of Peyer and Brunner, and others showing no such alterations.

The strongest testimony, as it appears to us, yet adduced on this side of the Atlantic in favour of the opinion of the non-identity of typhus and typhoid fever, is that furnished by Dr. Gerhard of Philadelphia. This gentleman has described in the *American Journal of the Medical Sciences* for 1837, two epidemics, occurring in that city in different years, one of which he designated typhus, and the other typhoid fever. In speaking of the former (typhus), he says, "In this large number of autopsies, amounting to about fifty, there was but in one case, and that doubtful in its diagnosis, the slightest deviation from the natural appearance of the glands of Peyer." In the epidemic which he denominated typhoid fever, it appears that Peyer's glands were generally affected, and hence he inferred that, notwithstanding the similarity of the general symptoms to those of typhus, that the malady was not typhus. Now, if what has been said of the variety of complications which the same epidemic disease assumes in different years, be true, is it not fair to conclude that the differences in the morbid anatomy of the two epidemics described by Dr. Gerhard were due to incidental causes: and that the two epidemics were the same disease modified in different seasons, as in the

instances mentioned by Dr. Kennedy, and adverted to by Drs. Stokes and Davidson?

The post-mortem examinations made at the New York Hospitals, during the last year, might be deemed sufficient, apart from all other testimony, to establish the identity of typhus and typhoid fever. In the cases of ship fever, a pure form of typhus, a disease unquestionably originating in every instance from the same poison, follicular disease of the intestines was found after death in some cases, and not in others. Dr. Stone tells us, in the *New York Annalist*,* that, in four weeks, ending May 12th, 1847, there were admitted into the Bellevue Hospital about four hundred and sixty-six cases, sick of typhus; and he says that "the most constant anatomical lesion which I have found in the examination of about twenty-five of those who have died, is an enlargement and softening of the spleen. Peyer's glands were found more or less diseased in about one-fourth of these cases, and the heart more or less softened in a somewhat larger proportion." The same gentleman, in another communication, published in the *New York Journal of Medicine*,† relating to the same fever, gives the following among his other conclusions, drawn from observations of the disease in New York and New England: "That typhus and typhoid fever, so called, are identical." Professor Clark, in illustrating the morbid anatomy of typhus, at a meeting of the New York Pathological Society, Feb. 23, 1848, stated, in reference to a particular hospital case, that "the usual old typhoid lesion affected the intestines with the common appearance of the present epidemic." "This case," he said, "allies the present epidemic with the typhoid fever."‡ At a meeting of the same society, held March 8, 1848, Dr. Swett made the following interesting statement. He said, "that fever had occurred at the Bloomingdale Lunatic Asylum, carried thither by an insane emigrant, and fifteen persons had been attacked with it. Nine or ten had come to the hospital, and two had been examined post-mortem. In the first there were no lesions of any kind: in the second, there were ulcerations of the small intestines." "Where the ulcers existed, instead of attacking Peyer's glands in the middle, they attacked the edges, extending two or three feet up the intestine, and then disappearing. Some had cicatrized, and some were cicatrizing. Both cases originated from ship fever in a very cleanly and healthy set of men; so that it seems as if the same

* Vol. i. p. 383, No. for May 15, 1847.

† Vol. x. p. 176, No. for March, 1848.

‡ Annalist, Vol. ii. p. 249.

poison might communicate to one ulceration, and to the other none." Dr. Swett ingenuously added, "that his belief in the non-identity of the diseases lessened daily, and he could not discriminate between cases presenting intestinal lesions (typhoid), and those which did not (typhus)."* Dr. Griscom, one of the physicians of the New York Hospital, states, that in ten autopsies of patients dying of ship fever in that Institution, in July, August, and September, 1847, six presented follicular disease of the intestines. Peyer's plates were prominent in four, and ulcerated in two. Facts of this kind are so frequently observed in the New York Hospitals that they have, in a measure, ceased to attract the attention of many physicians once deeply interested in their investigation, in reference to the question of the identity of typhus and typhoid fever.

To the same conclusion tend the inquiries, relating to this subject, in other quarters of our country. A writer in the *American Journal of the Medical Sciences*,† in speaking, it is presumed, of the ship fever in Philadelphia, says: "We have lately seen a great number of cases of fever in recently arrived Irish emigrants—the majority of the cases were of well-marked typhus fever; a few were of equally well-marked typhoid fever; while, in a third class of cases, the characteristics of these two fevers were so completely blended that it was very difficult to determine which of the two predominated." And he adds, "here, then, we have persons who have been exposed to precisely the same morbific causes, attacked with fever of a similar type, bearing the characters in some of the typhoid fever, in others of the typhus, and in others again a union, as it were, of the characteristics of both. This fact would seem to prove, that the typhoid is a mere form or variety of the typhus fever." He also remarks, that "in the present state of our knowledge on this subject it is, we conceive, much safer to consider the typhoid as one of the forms of typhus fever."

In view of the facts which have been stated, it seems to the committee that no reasonable doubt can remain that typhus and typhoid fever are identical. Were medical men united in this conclusion, might we not hope, that with undivided attention, and a union of effort, more rapid advances would be made in determining the causes of the morbid condition of the Peyerian glands and other organs which occur in some cases of typhus and not in others? On this sub-

* Annalist, vol. ii. p. 265, No. for April 15, 1848.

† No. xxix. p. 202, January, 1848.

ject we would, in conclusion, remark, that it appears to us, that the deposit of typhus matter, so called, occurs not only in the intestinal follicles and mesenteric glands, but also in and beneath the mucous membranes, in the lungs, spleen, and probably in the kidneys; that in some cases this form of epigenesis shows itself mostly, if not exclusively, in the intestines, in others in a different part, and in others again in various tissues; that in some instances it is not discoverable in any organ; that in the typhus of some seasons and countries it is generally present in the intestines, and in others, absent in many or a large majority of cases.

JOSEPH M. SMITH, *Chairman.*

B.—1.

ŒDEMATOUS LARYNGITIS

SUCCESSFULLY TREATED BY

SCARIFICATIONS OF THE GLOTTIS AND EPIGLOTTIS;

BY GURDON BUCK, Jr., M.D.,

SURGEON TO THE NEW YORK HOSPITAL, &c. &c.

ILLUSTRATED WITH FOUR PLATES.

Within the short period of eleven months there were no less than eight cases of this rare disease in the New York Hospital, of which seven occurred between the months of December, 1847, and February, 1848. During this latter period the season was remarkably rainy and wet, accompanied with very little snow, and characterized by the prevalence of erysipelas and typhus fever, as well as an asthenic type in other diseases, both in and out of the hospital.

More than a year previous to the occurrence of the first of these cases, and without any knowledge at that time of any similar method of cure having been practised or proposed by others, I was led to the conviction that scarifications of the œdematous edges of the glottis, as well as of the epiglottis, might be employed as an effectual means of relief in this formidable disease; and when the occasion presented itself of carrying into effect these views, the remark was made to my assistants at the hospital, and other gentlemen present, that such had been my convictions, and that the first opportunity had now occurred of applying them to practice.

The well known fatal character of the disease warranted the trial of any new remedy that afforded a reasonable prospect of benefit.

In connection with this operation, the employment of the touch was naturally regarded as of great importance as a means of explor-

ing the diseased parts, and thus establishing the diagnosis beyond doubt.

Though the œdematous swelling of one or both edges of the glottis is the cause of the dyspnœa, from the mechanical obstruction it presents to the entrance of air into the larynx, yet, as will hereafter appear, the epiglottis almost always participates in the swelling, and being within reach of the fore-finger passed into the mouth, it affords an invaluable means of diagnosis.

The following is the mode of performing the operation of scarifying, as employed in the cases about to be related.

The patient being seated on a chair, with his head thrown back, and supported by an assistant, he is directed to keep his mouth as wide open as possible; and if there be any difficulty in this respect, a piece of wood an inch and a quarter in width, and half an inch in thickness, is to be placed edgewise between the molar teeth of the left side. The fore-finger of the left hand is then to be introduced at the right angle of the mouth, and passed down over the tongue till it encounters the epiglottis.

But little difficulty is generally experienced in carrying the end of the finger above and behind the epiglottis so as to overlap it and press it forwards towards the base of the tongue. In some individuals the finger may be made to overlap the epiglottis to the extent of three-fourths of an inch.

Thus placed, the finger serves as a sure guide to the instrument to be used, which is represented accurately in the accompanying plate. (See Pl. II. Fig. 1.) The knife is then to be conducted with its concavity directed downwards, along the finger till its point reaches the finger nail. By elevating the handle so as to depress the blade an inch to an inch and a half farther, the cutting extremity is placed in the glottis between its edges (*see plate* I.); at this stage of the operation the knife is to be slightly rotated to one side and the other, giving it a cutting motion in the act of withdrawing it. This may be repeated without removing the finger, two or three times on either side. The margin of the epiglottis, and the swelling between it and the base of the tongue may be scarified still more easily with the same instrument, or scissors curved flatwise may be employed for these parts, guided in the same manner as the knife.

Though a disagreeable sense of suffocation and choking is caused by the operation, the patient soon recovers from it, and submits to a repetition after a short interval. In every instance the operation has been performed twice, and in some three times.

Before proceeding to the operation, it has always been explained to the patient, that the seat of his difficulty was a swelling at the top of the windpipe, preventing the air from entering, and the object of the operation was to cut it and let out fluid, and thus give him relief. This explanation corresponds so exactly with his own sensations, which refer to the top of the thyroid cartilage as the seat of obstruction, that he readily submits to the proposed operation, and renders all the co-operation in his power for its performance.

A slight hemorrhage follows the scarifications, and should be encouraged by gargling with warm water. In one instance the quantity of blood mixed with sputa amounted to half a wineglassful.

The first case for employing the operation was the following:

Case I.—Arthur W. Taylor, seaman, born in New York, aged thirty-one years, was acting as nurse in Ward No. 4, south building, New York Hospital. For two days previous to the 13th of April, 1847, when his case was first noticed, he had suffered from painful deglutition, with elongation of the uvula, that kept up a constant tickling sensation—the fauces also presented an inflamed appearance. The epiglottis was seen as well as felt to be swollen. Breathing was difficult, and attended with paroxysms of suffocation.

A stimulating gargle had been used, and, on the morning of the above date, the uvula had been excised with some relief. Six leeches had been applied over the larynx, and the bites were still bleeding at the time of the regular visit at noon. After exploring the parts with the finger, and ascertaining the existence of swelling of the epiglottis, and also allowing my two assistants to do the same, I scarified the aryteno-epiglottic folds and the epiglottis, partly with scissors curved flatwise, and partly with a sharp pointed curved bistoury, guarded to within one-third of an inch of its point by a narrow strip of adhesive plaster wound around it, and conducted to the parts upon the fore-finger of the left hand, previously introduced at the right angle of the mouth. Two or three repetitions were requisite, at short intervals, to complete the operation. The patient hawked up three or four teaspoonfuls of blood, mixed with mucus, and expressed himself as feeling relieved. Twenty ounces of blood were drawn from the arm soon after, and grain doses of tartar emetic administered.

On the following day (the 14th), an improvement in the respiration had evidently taken place.

On the 15th, respiration was still further improved, the pulse was

84, and soft; patient complained of soreness of the scarified parts. Antimony was stopped.

On the 17th he was much improved in all respects, pulse 68.

On the 23d he was discharged cured.

Case II.—On the 13th of January, 1848, I saw, at Dr. Swett's request, Daniel McGraw, aged 30 years, a farmer, born in Ireland, (in Ward No. 8, North Building New York Hospital,) who was attacked the evening previous with sore throat, difficulty of swallowing and dyspnœa.

Inhalation of vapour of warm water, poultices to the neck, and a blister over the sternum had afforded him no relief. Patient's countenance was pale and had an anxious expression, his lips were livid. Inspiration was difficult and laboured, expiration easy.

The voice was altered and hoarse. The velum, uvula and tonsils were moderately swollen, red, and coated with a grayish-yellow viscid secretion. With the forefinger the epiglottis was distinctly felt to be swollen, and its margin thickened and folded together. The pouches between it and the base of the tongue were filled up by a soft pulpy swelling. Dr. Swett also explored the parts and found them as described. At 10½ o'clock, A.M. I scarified the edges of the glottis as well as the epiglottis, and the swelling anterior to it, with a sharp pointed curved bistoury and curved scissors, as in case 1.

Slight hemorrhage followed, and was encouraged by a warm water gargle. The exploration of the parts, as well as the operation itself, did not cause much disturbance, and patient expressed decided relief. A solution of nitrate of silver, twenty grains to the ounce, was applied to the fauces one hour after the operation and once the following morning.

At 2½ o'clock, P.M., the same day, patient breathed more calmly and felt still further relief. He passed the following night very comfortably, and the next morning expressed himself quite well. The swollen parts were ascertained by the touch to have very much diminished. His further progress continued favourable without any repetition of the scarifications.

This patient had been in the ward since the 29th of the preceding month with ship fever of a mild type, and was considered as making favourable progress at the time of the above attack.

Case III.—On Tuesday, the 29th of February, I saw Edward Bird, a farmer of rather slender frame, aged 50 years, born in Eng-

land, and patient of Dr. R. K. Hoffman, in ward No. 10, Main Building, with symptoms of œdematous laryngitis.

The same morning he had first complained of sore throat attended with hoarseness and difficult breathing, especially during inspiration.

The epiglottis was felt with the finger to be swollen, thickened especially at its margin, pulpy and convoluted upon itself. The pulse was full and strong, though sixteen ounces of blood had, within two hours, been drawn from the arm, and vomiting produced by means of compound syrup of squills. Twenty grains of calomel had also been administered, and the throat fomented with warm applications. At 2 o'clock, P. M., no relief had been afforded by the above measures.

Before resorting to scarifications, two or three of my colleagues present explored the parts and satisfied themselves of the existence of the swelling as described.

The patient being seated upon a chair and his head supported, I scarified the edges of the glottis as well as of the epiglottis, with a curved knife, such as is represented in Plate II. Fig. 1, and repeated it two or three times at a few moments' interval. Slight hemorrhage followed. But little disturbance of the parts was produced by the operation, and the patient expressed himself as feeling relieved.

While the end of the finger was pressing the epiglottis against the base of the tongue, the soft pulpy swollen edges of the glottis were felt rising up against it.

My colleagues, Drs. Hoffman, Post, Watson and Swett, besides the assistants and fifteen or twenty pupils, were present at this operation.

The same evening six leeches were applied over the larynx, and nitrate of silver on either side of the neck externally.

The following day, at 1 o'clock P.M., the patient replied to the inquiry how he was, that he felt "fifty pounds better;" the dyspnœa, however, was still considerable and the voice the same. He was ordered two grain doses of calomel every two hours, and one-eighth of a grain of tartar emetic at the same interval, alternating them with each other.

Second day.—Patient is no worse, his respiration is much the same, and no paroxysms of dyspnœa have as yet supervened; his pulse is 120, full and strong. Calomel and tartarized antimony are continued.

At 6 o'clock P. M., the same day, the dyspnœa having rather

increased, I repeated the scarifications with the guarded bistoury, (the curved knife being in the hands of the cutler,) but without accomplishing the operation satisfactorily.

Third day.—Patient is decidedly worse, the obstruction to respiration has evidently increased, and paroxysms of dyspnœa and choking have supervened. The epiglottis is felt to be more swollen. The voice is more affected. The pulse continues full and strong. Two five grain doses of sulphate of copper had been administered and produced vomiting, but without relief.

At 3 o'clock P. M., I repeated the scarifications with the curved knife in the usual way, and they were followed, as before, with moderate bleeding.

At 6 o'clock P. M., though the patient expressed himself as feeling some relief, the obstruction still appeared so great, and the danger of suffocation during the night so imminent, that my colleague, Dr. Hoffman, and myself, considered that tracheotomy ought to be resorted to without further delay, and we both of us urged upon the patient to submit to it, but he obstinately refused.

At this time an erysipelatous blush had shown itself on the right cheek. Another patient in the ward had been seized with erysipelas the same morning.

The calomel and tartarized antimony to be continued as before.

Fourth day.—To our great surprise patient is still living, and apparently no worse; he says he feels himself better; pulse has not fallen off, and the paroxysms of dypsnœa have not recurred. The erysipelas is spreading upon the temple and forehead attended with moderate swelling.

Fifth day.—Patient is decidedly better, and at evening the epiglottis was ascertained by the touch to be of its normal size.

Sixth day.—A still further improvement in respiration has taken place, and the voice is resuming its clear tone.

The subsequent progress was favourable. The erysipelas pursued its course in a mild form and gradually subsided. No mercurial ptyalism was at any time perceptible, and in a few days the patient was free from all symptoms of laryngeal disease.

When seized with the above attack, this patient was confined to his bed in a very debilitated condition, with fracture of the right os brachii at its neck, that had happened six weeks previously on ship-board where he had been exposed to typhus infection; several of his fellow passengers and his own wife, having died of the fever on the voyage.

Case IV—Was a patient of Dr. Swett in medical ward No. 9, North House, New York Hospital, named James Rourke, aged 27 years, born in Ireland. On Tuesday, February 28th, 1848, at 2½ o'clock P. M. was suffering with well marked symptoms of œdematous laryngitis, that had supervened in the progress of typhus fever at about the end of the third week. An abundant petechial eruption, great prostration, subsultus tendinum, and extensive bronchitis had characterized the fever. A supporting and stimulating plan of treatment had been pursued, and a large blister had been applied over the chest within a day or two for the relief of the bronchitis. Patient was also taking Stokes' Expectorant. When seen, his breathing, especially during inspiration, was difficult and sonorous, and his voice hoarse.

There was some soreness of the throat with a copious expectoration of viscid mucus.

The velum and fauces were of a deep red colour, clean and free from swelling or exudation upon their surface. With the finger, the edge of the epiglottis was felt thickened, swollen and pulpy, by Dr. Swett, as well as myself. The glosso-epiglottic frænum and pouches on either side were not swollen.

I scarified the edges of the glottis and the epiglottis, two or three times at a few moments interval, which was followed by slight hemorrhage, and from which patient admitted that he felt some relief, though from the confused state of his intellect incident to the fever, his own testimony was considered doubtful.

Some difficulty was experienced in the operation from the involuntary closing of the jaws as if by a movement of subsultus, by which the left forefinger was compressed between the teeth. The instrument used was the curved knife. On the following day, patient was found to have passed the night comfortably and was no worse, the hoarseness and dyspnœa were about the same; no paroxysms of suffocation had as yet supervened. Stokes' expectorant and stimulants were continued.

Second day, 4 o'clock P. M.—Patient is decidedly worse, dyspnœa very much increased, paroxysms of suffocation and choking have now supervened, and are excited by attempts to swallow and on falling asleep, during which the face and lips become livid. The pulse is 80, full and quick, the skin warm and dry, the tongue brown and dry, and the throat clogged with viscid mucus; the epiglottis is felt to be much more swollen. I repeated the scarification very freely, taking the precaution to insert a piece of wood between the molar

teeth on the left side to protect my finger. More hemorrhage followed the scarifications than in any previous operation. At least one ounce of florid blood was hawked up mixed with mucus, and patient expressed himself very much relieved. After this there was no recurrence of paroxysms.

Third day.—The case is going on favourably, respiration is decidedly easier, the pulse is good and 80 per minute.

Fourth day.—The improvement continues, the tongue has become white and moist, and the temperature of the surface more moderate. The epiglottis has nearly resumed its natural condition. Stokes' expectorant has been continued and the blistered surface kept sore. In a few days after, the voice recovered its natural tone, and the patient began to leave his bed. He was discharged March 30th, cured.

Case V.—Dr. Swett's patient.

On Sunday morning, March 5th, at 10 o'clock, I saw Peter M'Evan aged 24 years, an athletic seaman, in ward No. 6, north building, New York Hospital, who was suffering from the most intense dyspnœa.

He lay upon his right side with his face near the edge of the bed, his eyes closed and his countenance pale, and of a leaden hue.

His features were altered and of an almost death-like expression; the skin was bathed in perspiration. Every muscle of the trunk seemed to be brought into powerful action to perform the act of inspiration, which was protracted and sonorous, while that of expiration was short, easy, and unobstructed. The pulse was steady, full, and moderately frequent, respiration could still be heard posteriorly in the lower part of the chest, though feeble. This aggravated condition had existed about six hours; the patient had, however, been very delirious and unmanageable during the night, and had required restraint.

The evening previous, Dr. Swett had ascertained by the touch, the existence of a moderate degree of swelling of the epiglottis attended with hoarseness, but with only slight dyspnœa.

The patient had already been complaining of sore throat, hoarseness, cough, and slight fever for four or five days, and had previously been carousing for several days subsequent to his return from a voyage. A blister had been applied to the throat, and ten grains of calomel given, followed by black draught.

Patient's bed being placed so as to face a window, he was raised

to a sitting posture, which caused him to expectorate a considerable quantity of yellow viscid matter, that afforded some alleviation of his symptoms. He had expectorated freely the same sort of secretion during the night. On inspection, the surface of the velum and fauces was found of a deep red colour, clean and free from swelling of the tonsils or other parts.

The uvula was ulcerated off about its middle, leaving an even square surface as if it had been excised. Externally about the larynx, the neck was full and swollen, and the surface still suppurating from the blister. With the finger, the epiglottis was distinctly felt to be thickened, swollen and pulpy, more especially the left half of its margin. The glosso-epiglottic frænum and pouches remained natural. No time was lost in scarifying the edges of the glottis and epiglottis with the curved knife, which was accomplished readily from the parts being in this case unusually easy of access.

The operation was repeated two or three times at short intervals, and followed by a small quantity of blood in the sputa. No remarkable degree of disturbance was occasioned by the operation, and patient expressed some relief. After waiting half an hour it was judged by Dr. Swett, as well as myself, most prudent, in view of the urgency of the dyspnœa and imminent danger attending it, not to rely exclusively upon the scarifications, but to give the patient the additional chance of tracheotomy, which was accordingly performed without delay.

Great difficulty was encountered from the depth of the trachea, augmented by the swelling of the superjacent parts, and from the resistance of the patient, as well as the copious venous hemorrhage.

On incising perpendicularly the three superior rings of the trachea, the air rushed in with great force. After introducing a large sized curved silver tube, breathing was soon established through the artificial passage, and with less spasmodic coughing and irritation than usual.

The happiest effects promptly followed. The patient, from being exceedingly turbulent and excited, became tranquil and submissive. The respiration grew calm, and required no effort, and the countenance resumed its natural expression. Patient slept quietly the remainder of the day. On the following day at noon patient was doing well; and notwithstanding the tube was very much clogged with viscid mucus, he breathed easily. The swelling of the epiglottis had decidedly diminished. After removing the tube to cleanse it, the sides of the wound were pressed together to close the opening in the tra-

chea, when it was found that respiration through the larynx could be performed with considerable facility, showing clearly that the swelling of the glottis had already diminished very much. Replaced the tube as before.

Second day.—Progress favourable; the epiglottis is free from swelling, and of its natural dimensions.

After cleansing the tube and replacing it, the patient was able to breathe with natural facility through the larynx, with the tube closed at its external orifice, showing conclusively, inasmuch as the tube accurately filled up the opening in the trachea, that the swelling in the glottis had already disappeared.

Third day.—Left out the trachea tube altogether.

March 20th.—Air no longer passes through the opening in the trachea. The wound has filled up with granulations—the surface only remaining to cicatrize. No auxiliary treatment was employed in this case.

April 1.—Patient was this day discharged, with the wound healed, and his voice restored.

The other three cases that occurred terminated fatally, and without scarifications being resorted to.

They, however, possessed peculiar interest, as furnishing illustrations of the anatomical characters of the disease, and, happening as two of them did, after the first trial of the new method of treatment, they served to strengthen confidence in its adaptation and practicability.

Plates III. and IV. are faithful representations of the diseased parts removed from two of these cases, and show that the œdematous swelling affected both edges of the glottis in one (Pl. III.), and only one edge in the other specimen (Pl. IV.).

In the third case, not represented, the swelling also occupied only one edge of the glottis, and in all the three cases the swelling descended to the vocal chords, and encroached very much on the cavity of the larynx.

In one of the three cases (Pl. III.), the epiglottis is represented as free from swelling, though doubt existed on this point from the tongue having been cut across at its base, and twenty-four hours having elapsed after its removal before the specimen came into my possession, thus allowing the effused fluid, which constitutes the swelling, to ooze out, had it existed.

In the other two cases, the epiglottis participated largely in the œdema.

The results obtained under the new treatment in the foregoing cases far exceeded my most sanguine expectations. In every instance a favourable result followed the use of scarifications. In cases II. and IV. no other efficient auxiliary treatment was employed; scarifications alone were relied upon; and, though in cases I. and III. venesection, leeches, emetics, mercury, &c., were also employed, it was very obvious that no benefit was derived from them, and that no relief was experienced till the operation was resorted to.

It is true that in case V. tracheotomy, which has proved efficacious in this disease when early performed, was resorted to on account of the imminent danger of suffocation that threatened the patient; yet, if the particulars of this case are carefully considered, evidence may be derived from it tending to strengthen our confidence in the efficacy of scarifications, if not to show, that even in this particular instance, they might have been exclusively relied upon. It will be borne in mind, that twenty-four hours after the operation of tracheotomy, on closing the opening of the trachea, by compressing the edges of the wound together, the patient could already breathe through the larynx with a good degree of facility, and the epiglottis itself was felt to have diminished in size. At the expiration of forty-eight hours, on closing the outer orifice of the tube, which accurately filled up the opening in the trachea, the patient was able to breathe without effort, showing conclusively that the obstruction of the larynx had disappeared. The epiglottis had also resumed its natural size.

That the removal of the obstruction of the larynx in this case was very rapid will appear by comparing it with what has been observed in other analogous cases after tracheotomy.

Mr. Porter (*Obs. on the Surg. Path. of the Larynx and Trachea*, London, 1837, p. 103,) states, that in a very urgent case of œdema of the glottis, where tracheotomy was performed, "the subsequent progress was, in every respect, as favourable as the operator could wish. The patient had calomel and opium to the extent of affecting his mouth. *In a few days* he was able to respire partially through the glottis," &c. Mr. Porter also says (in *Med. Chir. Trans.*, vol. xi. p. 422,) of a patient, "*on the third day* after tracheotomy had been performed, under the most urgent circumstances in this disease, that he had one or two attacks of convulsive breathing from the wound being obstructed. He was sometimes obliged to resort to the natural opening, and to use strong muscular exertions in inspiration," &c. &c. This patient was also taking mercury freely. Mr. Lawrence (in the *Med. Chir. Trans.*, vol. vi. p. 253,) says of his patient, "on

the *ninth day* after tracheotomy, he was sufficiently recovered to get up. By holding the edges of the wound together he could breathe through the larynx and speak, but there was still a feeling of difficulty which made it necessary to open the wound again in a short time."

Mr. Wood (in *Med. Chir. Trans.*, vol. xvii. p. 159,) says of a patient, "on the *fourth day* after tracheotomy, she breathes easily except when the artificial opening is obstructed by mucus." Ptyalism was also produced in this case.

All of these cases recovered. The obstruction of the larynx, however, was slow and gradual in its disappearance, and, in three of them, the progress of absorption was aided by the mercurial action.

It may, therefore, I think be fairly inferred that the rapid removal of the obstruction in the case under consideration is to be attributed to the free scarifications that had preceded the operation of tracheotomy, and in all probability they alone might have been relied on to accomplish the desired object. The mechanical obstruction to the entrance of air into the larynx, produced by the œdematous swelling of one or both edges of the glottis, with the spasm induced by it, constitutes the essential and dangerous feature of this disease, and one which will admit of no delay in its removal.

In the almost constant failure of other means to accomplish this object, the operation of tracheotomy has been very properly recommended by the best medical authorities to be early resorted to.

By this means an artificial entrance is provided for air into the lungs, by which life is supported, and time gained for the gradual removal of the obstruction.

The operation now under consideration aims at the removal of the obstruction itself in the most direct manner, and the results already obtained may well encourage the hope that this formidable disease will not hereafter bear such fatal sway as the annals of medical science show it to have done heretofore.

In respect to the difficulties of the operation, it may be remarked that those which exist on the side of the patient are—1st. Irritation and disturbance of the affected parts themselves produced by the presence of the finger and instrument. These, as has already been incidentally remarked in the report of the cases, have not been so great as to prevent the accomplishment of the operation or deter from its repetition. The patient soon recovers from them, and in every instance two or three repetitions, at intervals of three or four minutes, have been submitted to. In one

instance only (Case III.) did the patient require urging. 2d. As this disease sometimes supervenes in the progress of phlegmonous inflammation affecting the parotid or submaxillary regions, and attended with rigidity of the lower jaw, the difficulty of separating the jaw might be insurmountable. In this case tracheotomy would be the only resource. The most suitable means of overcoming the obstacle in such a case, would be the cautious use of wooden wedges to pry apart the jaws.

The difficulties on the part of the operator, where the requisite knowledge of the anatomical relations of the parts and the necessary skill are possessed, are by no means formidable. The accompanying plate (Plate I.), together with the description already given of the operation, it is believed will render the subject sufficiently plain.

The dangers of the operation are either of producing suffocation by exciting spasm, or of inflicting injury with the knife on neighbouring parts. In regard to the first, more extensive experience alone can decide the question. In Cases III. and IV. it was submitted to a severe test; at all events the danger from this source can scarcely be equal to that of the disease itself.

In regard to the danger of wounding neighbouring parts, the action of the knife is limited on either side by the sides of the thyroid cartilage, which shut in the glottis and render access to the great vessels impracticable. In the swollen state of the lining membrane, the scarifications, unless carried to an undue extent, would not be likely to involve anything beyond the membrane itself.

It will be for future experience to determine in what particular conditions of this disease the operation may be inapplicable. The advantages of its early application are shown in Cases I. and II.; and in Case III. the patient's obstinate refusal to submit to tracheotomy compelled our sole reliance on scarifications, and that in circumstances of the most imminent danger from impending suffocation.

Although œdema of the glottis is a disease confined to adult age, yet an analogous condition of the larynx is accidentally produced in children by their attempting to drink scalding water from the spout of a tea kettle. Numerous cases of this accident have been reported, in which death took place from suffocation, with symptoms of croup, and in which the edges of the glottis and epiglottis were found swollen and blistered. A few of these cases have been saved by tracheotomy. Scarifications would seem to be equally applicable for their relief, and Dr. Marshall Hall, in 1821, (*Med. Chir. Trans.*, vol.

xii.,) after relating four cases of this accident, observes, in remarking on the treatment:—"If the suffocation were imminent, I should not hesitate to propose laryngotomy or tracheotomy, and the former would appear to reach below the seat of the affection. But I now regret that I did not propose the scarification of the epiglottis and glottis, so as to evacuate the blisters." The suggestion of this distinguished physician does not appear to have been carried into effect or even noticed by those who have treated of this subject since it was made. Dr. Jameson, in his Observations on Œdema of the Glottis from attempts to swallow boiling water, (*Dub. Quart. Journ. of Med. Sci.*, No. IX., Feb. 1848,) makes no allusion to it.

Lisfranc has proposed making punctures (mouchetures) of the swellings in œdema of the glottis, of which Cruveilhier says, (*Dict. de Méd. et de Chir. Pratique*, tome ii. p. 41, 1834,) "I doubt whether this little operation has ever been performed." Mr. Ryland (*A Treatise on the Diseases and Injuries of the Larynx and Trachea*, Philadelphia, 1838, p. 51,) says of this method, and of that of M. Thuillier, which consists in making pressure from time to time by means of the finger upon the distended lips of the glottis, to promote the absorption of the effused serum, "both plans are fantastic, very difficult if not impossible of accomplishment, and more likely to increase than diminish the existing mischief."

Mr. Busk, at a meeting of the Royal Med. and Chir. Soc., March 9, 1847, (*London Lancet*, March, 1847,) related "two cases treated successfully by making a great number of minute punctures on the back of the tongue, the uvula, and pharynx, with a sharp pointed bistoury, and repeating them every half hour for two or three hours."

These are the only methods of treatment analogous to the one under consideration that have been hitherto proposed by others so far as my researches have ascertained.*

The question of diagnosis in this disease is one of vital importance, irrespective of the present operation, but in connection with it its importance becomes very greatly enhanced. Without stopping to notice the distinctive symptoms which have been generally regarded as characteristic of this disease, or those of other diseases that are most likely to be mistaken for it, I beg leave to insist upon one sign which is strictly pathognomonic, and does not appear to have been sufficiently appreciated.

* See note at the end of this paper.

I refer to the swelling of the epiglottis as ascertained by the touch. The discovery of it, according to Bayle, (*Dict. des Scien. Med.*, tome xviii., p. 507,) is due to M. Thuillier, who proposed it in a thesis sustained before the Faculty of Medicine in Paris, in 1815. The value of this sign will be admitted if we consider how frequent the swelling of the epiglottis co-exists with that of the glottis. Bayle, (*loc. cit.*,) who dissected more than seventeen cases of this disease, says, "the epiglottis is rarely intact, often it is very much swollen at its edges." Ryland says, (*loc. cit.*, p. 48,) "The œdema is seldom confined to these localities, but extends to the base and lateral edges of the epiglottis, &c."

Among seventeen cases collected from different sources, and in which the condition of the epiglottis was ascertained, either by dissection after death, or by the touch or inspection during life, swelling was found in fifteen. Of the eight cases reported in this paper, the epiglottis was found swollen in seven, and in the remaining one there was no evidence that it was not swollen.

This swelling takes place either at the margin on one or both sides of the median line, or on the lingual surface of the epiglottis at its base, filling up one or both depressions between it and the tongue, and obliterating the central glosso-epiglottic frænum.

It conveys to the touch the sensation of a soft pulpy body, easily recognized and distinguished from the stiff rigid swelling of these parts in membranous laryngitis.

The facility of ascertaining the condition of the epiglottis with the end of the forefinger, not only by placing it in contact with its anterior surface, but by passing over its upper edge and applying it upon its posterior surface, has been already noticed.

To test this question still further, the experiment has been repeated in at least twelve individuals, and in all with success, though not with equal facility. In some these parts were easier of access than in others, but in none did the experiment fail.

In the exceptional cases where the epiglottis is not found swollen, the edges of the glottis may be brought more within reach by pressing up the os hyoides with one hand applied externally over it, and acting from below upward, while the forefinger of the other hand is introduced as directed into the mouth.

Should this not accomplish the object, the fore and middle finger may be thrust far back into the pharynx, as is required for the removal of a foreign body lodged in the throat.

In all the five cases treated by scarifications, it will be remem-

bered that the test of touch was applied, not only by myself, but by one or more of my colleagues or assistants, and thus the diagnosis of the disease was established beyond doubt.

To those who have encountered this formidable disease, this subject will possess peculiar interest; and the remedy proposed, perhaps, may be hailed by them as a valuable improvement in the healing art.

Time and experience alone can determine this question. To this test I desire to subject it after having, as I believe, faithfully recorded and made known the results of my own experience.

In conclusion, I desire to express my grateful acknowledgements to Drs. R. K. Hoffman and John A. Swett, my highly esteemed colleagues at the New York Hospital, for the opportunities they kindly afforded me of applying the new treatment upon their patients, and also to my pupil Mr. Moreau Morris, for the accurate and beautiful drawings accompanying this paper, and so indispensable for its illustration.

Note.—Since this paper was laid before the American Medical Association at its recent meeting, I have had access to Valleix's work, entitled *Guide du Médecin Praticien*, tome i. p. 481, Paris 1842, giving a detailed account of M. Lisfranc's operation, respecting which it seemed doubtful, from the very slight notice taken of it by earlier authorities, especially Cruveilhier, whether it had ever been performed. M. Valleix says, "M. Lisfranc (*Mém. sur l'Ang. Laryng. Œdem., Journ. Gén. de Méd.*, tome lxxxiii., 1823,) first conceived the idea of evacuating by means of incisions more or less numerous, the serous or sero-purulent fluid engorging the submucous tissue of the larynx. This surgeon cites five cases in which this operation was followed by an immediate change, and subsequently by a complete cure. In a sixth case, several similar operations at variable intervals acted only as palliatives. Extensive lesions of the larynx existed, which at length caused the death of the patient.

"The following is M. Lisfranc's method of scarifying the larynx. Take a long narrow-bladed slightly curved bistoury in a stiff handle, protected with a strip of linen to within half an inch of the point. Let the patient open his mouth wide, and have the jaws kept apart by means of a cork placed far back between the molar teeth, one end of the cork being held by an assistant. The patient being placed in front of the operator with his head supported against the breast of an assistant, pass the index and middle finger of the left hand into the

mouth till they reach the swollen edges of the larynx, glide the bistoury flatwise upon the finger, holding it as you would a pen. On reaching the larynx direct the edge forward and upward, then after having elevated the handle depress it gradually, at the same time pressing gently upon the point. At first, a few punctures only should be made, as by the aid of pressure two or three small incisions are sufficient. They may easily be multiplied in the same way if judged necessary.

"These scarifications, says M. Lisfranc, produce a flow of the infiltrated matter and sometimes a slight oozing of blood, which effects a salutary disgorgement. The cough excited by a few drops of serum falling into the larynx, contributes much to diminish the swelling. The immediate beneficial results of these scarifications might be partially defeated, by their occasioning more or less inflammation of the larynx and surrounding parts. In such a case recourse must be had to general or local bleeding, which would soon disperse this traumatic inflammation."

It appears also, from M. Valleix's statement, that Professor Marjolin has lacerated the œdematous edges of the larynx with a piece of althea root, and M. Legroux with the nail of the index finger sharpened for the purpose, and both with success.

EXPLANATION OF PLATE I.

Represents a transverse perpendicular section through the base of the cranium, and between the pharynx and cervical vertebræ. The pharynx is laid open and exposes posteriorly the nares, velum, uvula, base of the tongue and glottis, with the left forefinger applied upon the epiglottis and pressing it forwards against the base of the tongue; the curved knife is placed with its cutting extremity in the entrance of the glottis between its edges, which are represented as œdematous.

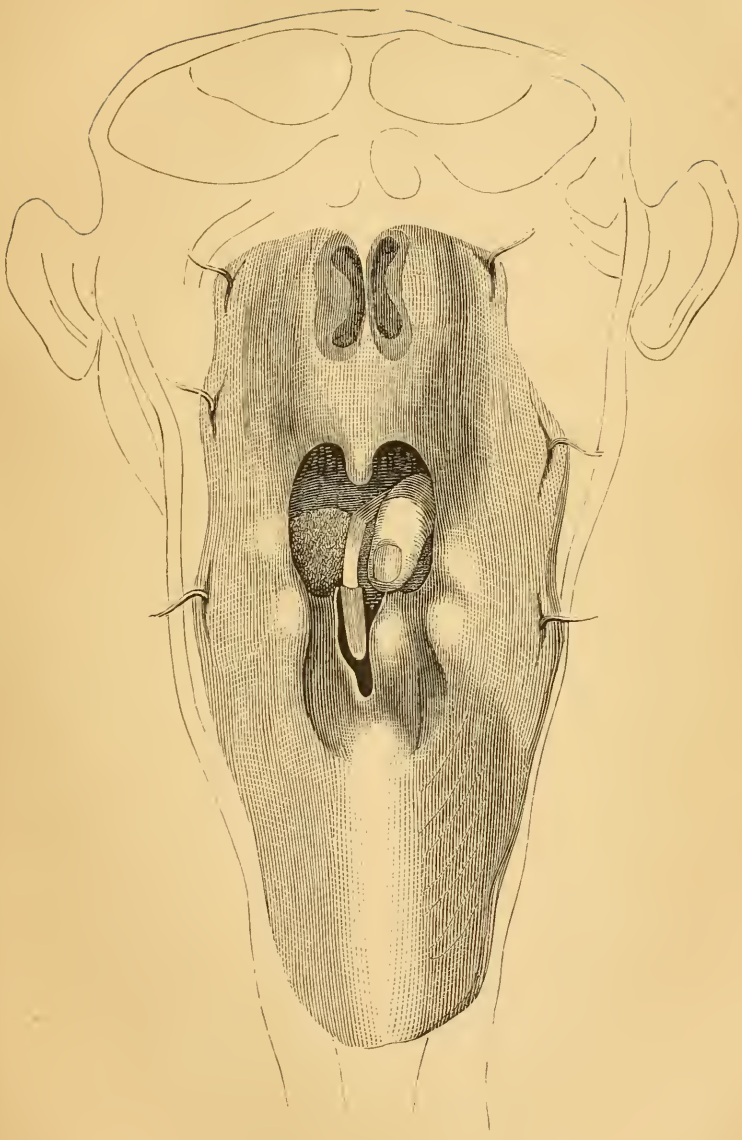


PLATE II.

Fig. 1. The curved knife for scarifying the glottis.

Fig. 2. The scissors curved flatwise for snipping the edges of the epiglottis and swollen pouches on its lingual surface.

Fig. 1.

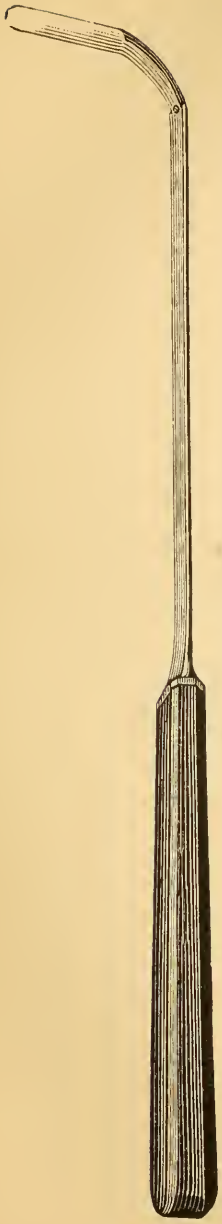


Fig. 2.

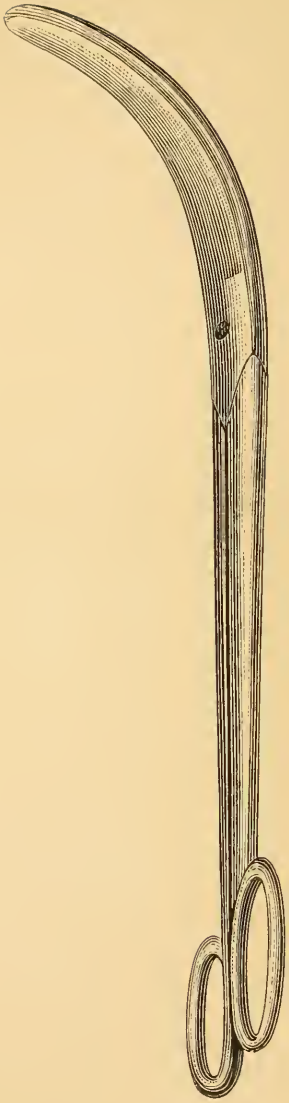


PLATE III.

A specimen from a typhus patient, showing œdematous swelling of both edges of the glottis, spreading into the cavity of the larynx, and extending to the surrounding walls of the pharynx. The swollen pharyngeal surface is of a mottled straw colour, from a deposit of fibrin under the mucous membrane. The tongue having been cut off at the base in removing the specimen, the swelling of the epiglottis in case it had existed, had disappeared from the draining off of the effusion.

PLATE IV.

Another specimen from a typhus patient, in whom dyspnœa was first noticed only three or four hours before death. The œdematous swelling occupies the right margin of the glottis and extends forwards along the side and in front of the epiglottis, involving the central glosso-epiglottic frænum and spreading somewhat beyond it to the left.

C.

REPORT OF THE COMMITTEE ON SURGERY.

In presenting the Report on Surgery, the committee beg leave to state, that in entering upon their duties, they felt themselves under some embarrassment from the terms in which those duties are defined. By our regulations they are directed to prepare a report on all the important improvements in the management of surgical diseases effected in America during the year. Had they confined themselves to the letter of this requisition, their task would have been a light one. Neither brilliant discoveries, nor any extraordinary improvements in the practice of surgery, have marked the past year. Many suggestive changes indeed are to be found—they are never failing—but all who devote themselves to the treatment of disease are aware how few of these bear the test either of experience or examination.

Though remarkable, as we have said, by no great discovery or very important improvement, yet the past year gives evidence of substantial progress, and in the estimation of your committee, this progress is evinced in nothing so much as in the desire which is everywhere shown to determine the actual value of operative procedures. On this account they have deemed it best to incorporate in their report, along with a notice of the improvements which are known to them to have either originated or been adopted in this country within the year, such results of surgical operations when done on a large scale, as they have been enabled to collect. In pursuing this course, the report necessarily becomes somewhat retrospective, and though the committee by so doing, have not observed the letter of the law, they, nevertheless, have endeavoured to catch its spirit by seeking after materials from our own practitioners, and dwelling chiefly on improvements not yet generally adopted among us.

In order to collect matter for this report, the committee issued a circular letter, soliciting information in regard to some points of

general interest to the profession, as well as of improvements in practice, expecting by this means to obtain facts and statistical data, which, when arranged and classified, might lead to interesting conclusions. So little, however, has been communicated to them, as not to be available for the purposes originally contemplated. Your committee cannot here withhold the expression of a hope that the future Surgical Reports to this Association may be made a repository for the statistical results of operations and modes of treatment, and that they may be more freely communicated than has yet been done.

It is only by collecting together a large number of facts that general conclusions at all approaching to accuracy can be attained, in addition to which, when drawn from the several sections of our widely extended country, as they might readily be, through the medium of a society such as this, they would allow of a comparison of the methods of treatment pursued by different practitioners and institutions, and might shed much light upon the effects of climate, as well as point out the greater or less frequency of particular surgical diseases in various localities.

To arrive, however, at accurate results from statistics, not only the records of several consecutive years are required, but they must also include all the cases of the disease, or operation treated of, which occur in the practice of the institution or surgeon, from which they emanate. They would specify the subjects of fractures and luxations, of amputations, of operations for stone, aneurism, cancer, hernia and cataract, as particularly worthy of statistical investigation.

Among the subjects of inquiry, which presented themselves to the committee, none appeared to them more worthy of present attention than those of lithotomy and lithotrity; for, in addition to their practical bearing, it seems to be peculiarly fit at this time, when the attention of our brethren in Europe is again awakened to them, as it has been by the recent discussion of their merits and faults, in a learned body in Paris, that some account of the results of operations done for the relief of stone in the United States should be made known.

The causes which give rise to stone, and the relative frequency or rarity with which it is found in the different parts of our continent, are matters of much interest, and endeavours were made to gain intelligence for this report in regard to them, hoping thereby that something might be elicited to explain the probable local causes of its production. In this, however, they have been disappointed, and

until an extensive series of observations can be gathered from the different sections of the country, no accurate knowledge on the subject will be obtained. Deprived as we thus are of any precise information on the matter, it may not be amiss to state, as the general impression of medical men among us, that calculus is rare in New England, more common in the Middle and Southern States, and that it is much more frequently met with in the Valley of the Mississippi than in any other portion of the country. Negroes are thought to be rarely the subjects of it, while in Canada it is said to be not uncommon. For the cure of stone, the cutting operation still continues to be that mostly resorted to, and the lateral operation with the gorget is believed to be the procedure most commonly employed. Nor is this to be wondered at, when the prepossession in its favour, derived from our earliest teachers, joined to the ease and rapidity with which the operation is done, and the fair results which usually follow it, are considered, added to which the unprecedented success that continues to be furnished by it in the hands of the eminent Professor of Surgery, in the Transylvania University, tends perhaps not a little still to popularize it among American surgeons.

In the last account* of the practice of Dr. Dudley which has reached us, it is stated that up to the beginning of 1846 he had operated upon 185 cases of stone, of which number 180 are reported as successful. This remarkable result, according to Dr. Bush, cannot be attributed to any selection of cases on the part of the operator, since out of 188 subjects presented to him, 185 were cut. Dr. B. who furnishes this report, ascribes these results to the thorough preparation of the general system made by Dr. Dudley, preparatory to the operation, an account of which was detailed some years since, in a paper published by him in the Transylvania Journal, and which we can only here refer to.

From communications that have been made to the committee, it appears that Dr. Marsh, of Albany, has operated by the lateral method seven times, all of which were successful.

Dr. Mettauer, of Virginia, states that he has operated by lithotomy on seventy-three cases of calculus, two of which proved fatal. One from prostatic hemorrhage, and the other from the occurrence of spasm of the ileum.

Dr. Jno. C. Warren has operated upon thirty cases, of whom two died; one of these lost his life by an error in diet, the other had a

* Western Lancet, 1846.

purulent effusion, owing to the great size of the stone, and the force required to extract it. The mode of operating in his fifteen first cases, was by the lateral incision and the gorget. In the thirteen following, by the knife, and in the three last by the bi-lateral method.

Dr. Eve, of Georgia, has operated eight times, including one female, all of which were successful. Dr. Mussey, of Cincinnati, informs us that he has cut thirty-two patients for stone, all of which cases have been successful but two.

From the Pennsylvania Hospital your committee have procured a tabular statement, which is herewith submitted as a part of their report, of all the patients cut in that Institution from its foundation in 1752 to the 1st of May, 1848, which, though in some respects imperfect, is nevertheless valuable, as exhibiting the largest mass of experience in calculus, which has yet been furnished by any American Institution.

No.	Name.	Admission.	Discharge.	Result.
1	Ann Fust	October 22, 1756	January 12, 1757	Cured
2	James Miller	August 29, 1759	October 10, 1759	Cured
3	James Clark	April 14, 1763	September 5, 1765	Cured
4	James Child	May 4, 1765	June 19, 1765	Cured
5	John Harper	August 23, 1765	October 16, 1765	Cured
6	Jeremiah Tracy	October 2, 1765	April 2, 1766	Cured
7	Ann Coyle	June 27, 1782	July 10, 1782	Cured
8	Michael Fisher	November 10, 1786	December 12, 1786	Cured
9	Jacob Felkner	November 29, 1788	April 30, 1789	Cured
10	James Bennet	September 1, 1792	November 28, 1792	Cured
11	James Fox	March 20, 1798	April 7, 1798	Cured
12	Abner Lamb	January 1, 1800	January 21, 1800	Died
13	James Shaw	August 31, 1801	September 31, 1802	Died
14	John Garraghan	May 13, 1802	June 16th, 1802	Cured
15	Isaac Vanderwalker	June 6, 1804	August 22, 1804	Cured
16	John Brebaker	May 9, 1809	June 29, 1809	Died
17	Joseph Bently	November 6, 1809	June 15, 1810	Cured
18	Thomas M'Dowell	March 27, 1810	April 23, 1810	Cured
19	George Wall	November 7, 1810	February 7, 1811	Cured
20	John Brown	November 13, 1811	January 25, 1812	Cured
21	Francis Welsh	February 22, 1812	April 25, 1812	Cured
22	Wm. P. Price	April 29, 1813	May 15, 1813	Died
23	Needham Bryan	May 12, 1813	August 4, 1813	Cured
24	Nathan Cattell	November 4, 1813	January 22, 1814	Cured
25	Gideon Goodwin	September 21, 1814	December 10, 1814	Cured
26	Shadrach Mears	June 17, 1815	August 21, 1815	Cured
27	James Parker	July 6, 1816	August 1, 1816	Died
28	Jane Maise	September 1, 1816	November 15, 1816	Cured
29	Claiborne Laughlin	June 21, 1817	August 1, 1817	Cured
30	Thomas Allen	June 22, 1817	August 30, 1817	Cured
31	Isabella Berry	June 29, 1818	August 5, 1818	Cured
32	James Moss	October 14, 1818	January 26, 1819	Cured
33	Richard Harris	December 5, 1818	April 15, 1819	Reliev'd
34	Penrose Fuhr	December 7, 1819	February 5, 1820	Cured
35	Samuel J. Herron	December 8, 1819	January 31, 1820	Cured
36	Isaiah Baptiste	September 9, 1823	October 25, 1823	Cured

No.	Name.	Admission.	Discharge.	Result.
37	Edward Robuck	September 23, 1823	January 7, 1824	Cured
38	Samuel Austin	February 22, 1824	April 5, 1824	Died
39	Osmin Harris	December 30, 1824	February, 1825	Cured
40	Abraham Margerum	November 14, 1825	January 2, 1826	Cured
41	James Barber	April 14, 1826	June 9, 1826	Cured
42	John Chandler	July 21, 1828	November 15, 1828	Cured
43	Samuel Suter	December 20, 1828	December 29, 1828	Died
44	Charles Lex	January 21, 1829	March 28, 1829	Cured
45	Samuel M'Donald	April 2, 1829	July 6, 1829	Cured
46	Michael Engles	October 24, 1829	November 28, 1829	Died
47	Robert Fry	September 23, 1829	April 3, 1829	Cured

No.	Name.	Age.	Admission.	Discharge.	Result.
48	William Eastwood	6	April 28, 1832	June 2, 1832	Cured
49	Houston Sigman	4	Sept. 10, 1832	Nov. 1, 1832	Cured
50	Joseph Purlz	3	October 1, 1832	October 28, 1832	Died
51	Grayson Nelson	14	April 30, 1833	July 3, 1833	Cured
52	Henry Thorp	19	Nov. 7, 1833	January 1, 1834	Cured
53	Peter Spyers	17	February 8, 1834	July 19, 1834	Cured
54	Daniel Gillan	6	May 31, 1835	Aug. 5, 1835	Cured
55	James Driver	16	June 14, 1835	July 29, 1835	Cured
56	Stephen Black	6	Dec. 22, 1835	February 9, 1836	Cured
57	Ellen Clincy	10	Feb. 29, 1836	May 11, 1836	Cured
58	Robert Thomson	24	March 17, 1836	June 16, 1836	Cured
59	William M'Elroy	12	January 14, 1839	March 4, 1837	Cured
60	Samuel Darby	16	April 3, 1836	July 18, 1836	Cured
61	Anthony Stresler	43	October 25, 1837	January 23, 1838	Cured
62	Bernard M'Kenna	7	Dec. 15, 1838	Feb. 22, 1839	Cured
63	John Hughes	4	January 19, 1839	Feb. 6, 1839	Cured
64	John Ransley	2	March 20, 1839	June 6, 1839	Cured
65	John Hughes, 2d	5	Nov. 11, 1839	Dec. 4, 1839	Cured
66	John Ramsey	3	January 8, 1840	Feb. 22, 1840	Cured
67	W. R. Patterson	3	May 5, 1840	June 5, 1840	Cured
68	William Bradley	8	Nov. 11, 1840	May 20, 1840	Cured
69	Thomas Carlin	4	Dec. 30, 1840	Feb. 6, 1841	Cured
70	James Wharton	4	January 10, 1842	April 14, 1842	Cured
71	Morgan Morgan	5	August 27, 1842	October 24, 1842	Cured
72	John M'Intyre	3	Sept. 21, 1842	March 11, 1842	Cured
73	John M'Connell	3	May, 1843	July 1, 1843	Cured
74	William Houston	3	May, 1843	June 21, 1843	Cured
75	Henry Huey	5	Sept. 19, 1843	October 11, 1843	Cured
76	C. C. Goldsborough	21	October 31, 1843	January 15, 1844	Cured
77	Thomas Hibbert	3	October 22, 1844	Dec. 2, 1844	Cured
78	Samuel Jarvis	4	Dec. 2, 1844	Dec. 13, 1844	Died
79	John O'Neill	11	Dec. 17, 1844	February 5, 1845	Cured
80	Charles Ross	41	August 18, 1845	October 22, 1845	Cured
81	James Furphy	4	Sept. 17, 1845	Nov. 8, 1845	Cured
82	John Sharkey	14	Sept. 18, 1847	October 29, 1847	Cured
83	John Beck	10	January 26, 1848	May 3, 1848	Cured

From this table, it appears that during the period mentioned, 83 cases underwent the operation of lithotomy, which, it is believed, was invariably by the lateral method, and except in a few instances

of very young children, by means of the gorget. Of this number, 72 were cured, 10 died, and 1 is set down as relieved.

A few among us have resorted to the bi-lateral method, and within a few years the profession have been favoured with valuable papers on modifications of it by Drs. Warren and Stevens. So far as your committee can ascertain, the first operation in our country by this method was performed by Dr. Wm. Ashmead, of Philadelphia, in 1832, nearly eight years after it was brought prominently into notice by Dupuytren at the Hotel Dieu of Paris. The case proved successful, and in that and the succeeding years, the same gentlemen operated upon three other patients. Dr. Ogier of Charleston repeated the operation in 1835 without any knowledge of its having been previously done in the country, and since that period it is known to your committee to have been practiced by Dr. Stevens, Eve, the Warrens, Mussey, May, Watson, Hoffman, Post and Pancoast.

Lithotripsy, too, continues to have its advocates, and though during the past year no extended notice of it has been met with, yet it is not to be inferred that it is without warm advocates, or fails to occupy the attention of our practitioners and teachers. We know, on the contrary, that earnest endeavours are still making to relieve calculous patients by this means, and have reason to think that in portions of the country the operators by this method may be said to be on the increase.

It was intended to have included in this Report, a brief history of the introduction, progress and present condition of the crushing operation among us, accompanied with an extensive statistical table of cases of lithotripsy, which would have permitted of some comparison being made between its results, and those derived from the cutting operation. In consequence, however, of the lamented death of one of their colleagues, Dr. Randolph, who had engaged to furnish important materials and aid in this inquiry, the committee have been unable to accomplish their design. That gentleman, as is well known, was one of the earliest who adopted the method in our country, and by his exertions in teaching, and skill in the performance of the operation, did much to introduce it generally among us, and it is to be regretted that the fruits of his extensive experience, and a statement of his reverses and success, which latter is said upon competent authority never to have been excelled, had not been completed by him.

As indicative of an actual advance in the science of surgery,

there is no subject which it more gratifies your committee to notice, than that of the treatment of aneurism by compression. Compression of the vessel between the aneurismal tumour and the heart, it is well known, was long ago employed, and examples of true aneurism of the lower extremity, radically cured by this means, are recorded; yet as the principle on which the treatment should be conducted was not then understood, much distress was occasioned by it, many failures occurred, and the practice fell into disuse. Scarpa emitted the opinion that it was by exciting adhesive inflammation in the internal coat of the vessel, that pressure effected the cure, and the same doctrine was afterwards held by our own experimenter, Jameson; but the recent and accurate observations of the Dublin surgeons, particularly of Mr. Bellingham, show that obliteration of the vessel by its inflammation and consequent effusion of lymph is not requisite for the cure, and have, as we think, satisfactorily proved, that for the cure of aneurism by compression above the sac, an absolute interruption to the circulation through the vessel is not demanded—the process of cure, when it occurs, being identical with that by which nature sometimes spontaneously effects it; viz., the gradual deposition of the fibrine of the blood in the sac until it is completely filled up, and no longer permits the entrance of that fluid. The practical deduction from this principle is, that the pressure need not be so great as entirely to interrupt the circulation at the point compressed, and that in fact our object may be attained by simply diminishing the current, and thus favouring the deposit.

In 27 cases, which are related in the valuable communication of Mr. Bellingham, from the practice of seventeen surgeons, 24 were cured. One died suddenly from disease of the heart, forty-eight hours after pressure had been removed, all pulsation in the aneurism having ceased. In another case the operation was done at the request of the patient after the pressure had been continued for a fortnight, and in the third, pulsation continuing some time after compression was resorted to, a galvanic current was passed through the sac, and was followed by erysipelas and death.

The ages of the patients operated on, varied from twenty-three to fifty-five years. The greatest length of time required for the cure in the above 24 cases was 106 days; the shortest, two days. The average duration of treatment was nearly 39 days. Of the whole number of cases, three were femoral, and the rest popliteal aneurisms, and the case followed by death, as well as those in which the treatment failed, belonged to this latter class.

As to the instruments used in applying pressure, their shape and construction are matters of comparatively little importance. The essential points in an instrument for compression are: that it should admit of being readily applied; that its principle should be so simple as to be understood by the patient, and that it should effect the object intended with as little inconvenience as possible. A broad soft pad, Mr. Bellingham thinks, will generally be found to answer best, and the counter-pressure ought to be distributed over a large surface. As to the sites at which the pressure may be applied on the lower limb, either the point where the artery crosses the horizontal ramus of the pubis; between Poupart's ligament and the point at which the saphena joins the femoral vein; from the middle third of the thigh, down to the opening through which the artery passes to the back of the limb, are any of them eligible situations for it. In regard to the degree of compression, it at first ought always to be light; after a time, when tolerance is established, it may be increased to the degree we consider necessary; but, as before observed, Mr. Bellingham thinks it need never be so great as to interrupt completely the circulation in the artery at the point upon which it is applied.

In this country true external aneurisms are not common. Your committee are cognizant of but five instances in which the treatment by pressure, as now recommended, has been made use of in the lower extremity. All but one of these have occurred within the past year, and the details of them have been kindly furnished by the operators for this Report.

These cases have been treated by Drs. Buck, Rodgers, and Watson, of New York, Knight of New Haven, and Mütter of Philadelphia.

The first case was one of femoral aneurism, in which pressure was fairly tried and did not succeed, and it became necessary at last to resort to the operation by ligature.

The instance which occurred to Dr. Rodgers was that of a negro seaman, aged 47, who, two months before, observed a swelling in the popliteal region, which arose after a fall. The tumour was of the size of a duck's egg, and the symptoms of aneurism were well marked. He entered the New York Hospital, and on the 15th of January, 1847, pressure was made upon the artery near the groin by means of an arterial compressor. This was continued till the 12th of February, but it being found impossible to effect the desired object with it, Dr. Rodgers substituted another, consisting essen-

tially of a metallic plate placed upon the inner side of the thigh over the vessel, having three holes at short intervals through which screws passed, each having at one of their extremities a firm pad, and at the other a projection to which a key was adapted, by means of which pressure could be made upon the femoral artery at the different points. This metallic plate was secured over the artery by means of broad straps attached to a sliding plate of steel, secured in a metallic bar, applied longitudinally to the back of the limb.

Soon after the adjustment of this instrument, it was ascertained that the patient loosened the screw in the absence of his attendant. He was now watched night and day for three days, by the end of which time all pulsation in the tumour was entirely arrested. The swelling gradually subsided to half its original size. The only inconvenience experienced by the patient was a numbness of the limb, upon the first removal of the instrument, but this soon left him, and he was discharged cured on the 13th of April.

The case of Dr. Watson was one of femoral aneurism, treated also at the New York Hospital. The subject of it was an intemperate Irish woman, aged 38. The tumour, which was hard and painful to the touch, had existed for a month, and extended from the upper and inner third of the thigh to within a finger's breadth of the internal condyle of the femur, and at the point of its greatest circumference, reached from the inner border of the rectus muscle to the middle of the outer side of the thigh.

At midday, on the 23d of September, 1847, pressure was made by means of two pads secured to circular straps over the artery, with counter-compresses on the outer side of the thigh, the pressure produced being regulated by a screw which acted directly upon the pads over the vessel. The first compress was fastened over the artery just as it emerges from beneath Poupart's ligament, the second, a short distance below it, and both were so arranged as partially to control the circulation in the tumour, the pressure being regulated by alternately tightening one compress and slackening the other, in order to prevent abrasion of the integument. On the 24th the patient was restless; on the 25th she complained greatly of cramp and pain in the leg, which was much swollen, to relieve which a roller was applied, and the limb elevated on a pillow.

By the 26th all pulsation had left the tumour. The upper compress was now removed—sixty-eight hours having elapsed from its first application, and very slight pressure was kept up by means of the lower one. No return of pulsation followed the removal of the

compress, and in an hour afterwards the lower pad was also taken away. The skin beneath the upper compress had become somewhat abraded by the pressure, which required the application of a poultice, and subsequently simple dressings for a few days.

On the 28th no pulsation could be detected in the tumour, or in the femoral artery below the point, upon which the upper pad had rested.

By the 28th of October the tumour had much diminished in size, and become softer.

On the 12th of November, nearly two months subsequent to the commencement of the treatment, she left the hospital well, the tumour still gradually becoming smaller. There was no pulsation to be detected in the anterior or posterior tibial arteries, or at any point below the giving off of the profunda, and the femoral artery itself below that point was felt like a solid cord beneath the integument.

The case furnished by Dr. Mütter, was that of a book-keeper, aged 41, whose general health was feeble, and who, six weeks previous to the 24th of September, 1847, had been seized with stiffness in the right ham, which was soon followed by a pulsating tumour of the size of a turkey's egg. After a few days' rest in the horizontal position, his treatment was commenced by applying a roller to the limb in order to prevent swelling, and the application of one of Charrière's compressors, with a small oval pad over the femoral vessel where it passes down to become popliteal, and another similar compressor with a larger pad over the artery at the upper third of the thigh. The limb was then placed upon an inclined plane. After remaining in this position for twelve hours, the lower compressor was tightened until all pulsation ceased in the tumour. The pain produced by this procedure was severe, and could only be borne at first for half an hour. When it became insupportable, the upper compressor was screwed down, and the pressure from the lower one removed. The patient supported the pressure above for two hours without much difficulty; it then became annoying, and in order to relieve the suffering, the lower compressor was again tightened.

By thus alternating the points to which it was applied, the necessary amount of pressure was kept up without excoriation, or any other injurious consequence resulting, and from the peculiar construction of the instruments, and the previous application of the roller, the swelling of the limb was trifling. During the treatment,

the diet of the patient was restricted, and digitalis was administered to him.

By the 12th day the tumour was reduced to about half its original size; had become solid, and was free from pulsation. Notwithstanding these circumstances, Dr. Mutter did not consider it safe to allow his patient to move about, or even to relax the treatment, but continued to pursue the same course, with slight modifications, for six weeks longer. At the expiration of this period, the tumour had nearly disappeared, the collateral circulation was fully established, and the disease radically cured.

Dr. Knight's case, which is peculiarly interesting, from the novel manner in which the pressure was made, and quickly effected a cure, was that of a mulatto man, aged 48, in whom a popliteal aneurism had existed for several months. The aneurismal tumour, which was well marked, filled up the whole popliteal space. The leg was very painful and œdematous. After the œdema was removed by rest, and other appropriate treatment, pressure on the artery, by means of the hoop tourniquet, the calliper shaped instrument, the common tourniquet, guarding the limb against pressure of the strap by encasing it with thick sole-leather, and by a variety of other mechanical contrivances, was fairly tried. By whatever instrument, however, the pressure was made, and however carefully it was guarded, whether continued on one point only, or shifted from one part of the artery to another, the pain became in a short time so severe that it could not be endured. The pain complained of was not in the part pressed upon by the instruments, but was felt equally in the thigh and below the knee, and occurred whether the limb was left uncovered or was enveloped in a roller. It usually began in twenty-five or thirty minutes after the pressure was made, and became intolerable in fifteen or twenty minutes longer, and could be continued in no instance beyond one hour. These efforts were persisted in for eight or ten days, and as nothing had been gained at the end of that time, were abandoned. Before resorting, says Dr. Knight, to the ligature of the artery, I concluded, with the concurrence of his physician, Dr. Tyler, to try manual pressure upon the vessel. "To accomplish this, a sufficient number of assistants were procured from the members of the medical class, who cheerfully offered their services. They were divided into relays, two keeping up the pressure for five or six hours, relieving each other every hour or half hour, and these succeeded by two others. Sufficient pressure to arrest the pulsation in the tumour was found to be most easily made with the thumb or

fingers, without a compress, upon the artery as it passes over the os pubis, and the direction given to the assistants was to keep up this amount of pressure as nearly continuously as possible." This treatment was commenced at 3 o'clock P. M. No pain of consequence was produced by it for five or six hours, and then it was not severe, and was quieted by the eighth of a grain of morphia once or twice repeated. About eight hours after the pressure was applied, the temperature of the limb was diminished, and it appeared shrunken in size. Upon removing the pressure from the artery at 11 o'clock of the following day—twenty hours from the commencement of the treatment, the tumour was found to have diminished very little, if at all, and pulsated as strongly as before; but the tibial arteries could not be felt. The treatment was continued. Upon examining the parts the next morning, forty hours after the treatment was begun, the tumour was found to be nearly one-third less in size, firm and unyielding on pressure, and entirely without pulsation. All treatment was then discontinued. The femoral artery pulsated with its usual strength in the groin, and distinctly as far as its passage through the tendon of the adductor muscles. Between this point and the tumour it could not be felt. Several of the anastomosing arteries, especially one upon the inside of the limb, could be distinctly traced passing over the knee, pulsating strongly, and enlarged in size. From that time to the present—a period of more than four months—no change has taken place in the limb, except that the tumour has gradually diminished, so as now to be scarcely discoverable, and that the leg, which was at first cold and weak, has nearly regained its natural temperature and strength.

Within the past year another instance has been reported, in which a ligature was placed upon the common iliac artery for aneurism, by Dr. Lyon, of England. The bold and successful precedent for this, it will be remembered, was first done by Dr. Mott, of New York, in 1827. In 1812 the common iliac was tied, in a case of gun-shot wound, by Dr. Gibson. The patient lived thirteen days after the operation. Since this period, the case just alluded to makes the eighteenth in which the operation has been performed, of which eight have proved successful, and ten have died. The aim of this Report being to show results, rather than to give the details of operative procedures, particularly when not done among us, a bare mention of this fact will suffice. In connection with it, it may be interesting to notice the final issue of the instance in which this artery was last tied in this country. The operation was done by

Dr. Peace, at the Pennsylvania Hospital, and the details of it published in the *American Journal of Med. Sci.* for 1843. The subsequent history of it now given, has been furnished to the Committee by the operator. The artery was tied August 29th, 1842, and the patient was discharged cured on the 8th of October. Five months after it was done, the tumour, which had been very large, was found to be hard, was greatly reduced in size, and continued free from pulsation. He returned to a laborious occupation, and in November, 1843—fifteen months after the operation—his attention was directed to a re-appearance of the tumour. He now presented himself to his surgeon, who found it soft, fluctuating, and of the volume of a small orange, with the integuments covering it discoloured. He was re-admitted into the hospital, and in a few days ulceration took place, and he died after repeated hemorrhages. After his admission, ligature of the aorta was suggested, with a view of prolonging life, but it was found that pressure on this great trunk at its lower part did not arrest the flow of blood, and was, of course, abandoned. The pelvis, which was bequeathed to Dr. Peace, is now in his possession, and shows that the ligature had been placed upon the iliac vessel just above its bifurcation—a point at which it was perfectly sound—and that the hemorrhage was due to the return of blood into the tumour by the collateral vessels. These vessels being given off by the aorta, above the point at which it is prominent upon the vertebræ, and where it had been compressed in the examinations which were made.

That a ligature may be placed upon the aorta, there are recorded observations to attest: that it will ever be followed by any lasting benefit, there is every reason to doubt. Cooper's patient having died in forty; James' in three, and Murray's in twenty-three hours after it was done. As adding, however, to the list of cases, which show that the collateral vessels are fully able to carry on vigorously the circulation after its complete obliteration, a case which has been detailed by Dr. West, in the No. of the *Trans. of the Philadelphia College of Physicians* for February of the present year, is worthy of notice. The subject of it, who was aged 32, and died suddenly from the rupture of an internal aneurism, was remarkably muscular and athletic, with the superior half of his body more developed than the lower. The interesting feature of the case, for our purposes, was, that in tracing the aorta beyond the origins of the great vessels, its cavity was found to be *entirely obliterated* immediately beyond the ductus arteriosus. At the point of oblitera-

tion, it presented a well defined and regular contraction, which looked as if it had been produced by a ligature thrown around the artery. Beyond this, the vessel resumed very nearly its natural dimensions, and so continued throughout its course. It gave origin, in its whole length, to the usual branches; the upper pair of intercostals coming off immediately below the stricture. The internal mammary arteries, which pursued their course along the thoracic parietes in a very tortuous manner, were fully as large as the internal iliacs, and so were the epigastrics; these vessels constituting the main channels for keeping up the connection of the circulation above and below the aortic stricture.

From answers that have been received to the circular letter of the committee, some facts have been communicated for the Association, which they will now endeavour to give, as far as possible, in the language of their correspondents. Dr. March, of Albany, describes what he believes to be an easy and prompt mode of effecting the radical cure of hydrocele. His operation consists in using a pretty large sized round trocar, by which the puncture is made, and through the canula of which the water is permitted to flow out. The canula is to be kept still in the sac, and through it a camel's hair pencil, dipped into a solution of the iodide of potassium is to be passed, and the whole inner surface of the tunic painted over, which may require the pencil to be armed with the solution three or four times. He adds, that he has operated in this way in a number of instances with complete and most satisfactory success.

Dr. Horner, of Philadelphia, in his communication to the committee remarks, that he has found the treatment of hydrocele rendered much more certain by the introduction of a few threads passed through the tunica vaginalis from the bottom to the top, even where the process by injection is the main feature of the case. His experience has shown him that no injection is to be wholly relied on, unless in connection with subsequent treatment. The effect of any irritating injection into the tunica vaginalis, he observes, is not only to produce a secretion of lymph, but also of serum, and if the latter accumulates, it will of course keep separated the opposed sides of the tunica vaginalis, hence a common cause, perhaps the most frequent, of failure in all injections. This obstacle, he adds, may be very easily overcome with four or five threads of silk, which will carry off the serum as fast as it is secreted, and thus allow the two surfaces of plastic membrane to touch and coalesce.

Dr. Brainard, of Chicago, has forwarded for the consideration of

surgeons, some practical remarks in reference to the treatment of extensive suppuration by astringent and stimulant injections into the suppurating cavity. In these cases, free openings, and washing the surface within with a solution of ʒij of alum, and ʒi of sulphate of copper to the pint of water, will check its progress, diminish the quantity, and improve the quality of the pus. He is inclined also to think that the practice prevents purulent absorption, and by exciting inflammation, limits its spread among the tissues. The same application he has found useful on the surface of large stumps where the pus is abundant and offensive.

Dr. Brainard also advises us that he has lately used iodine injections in serous effusions. "Having noticed," he says, "the rapidity with which patients often sunk after puncture of ascites, spina bifida, &c., I formed the opinion that such treatment was wrong, and determined to try injections. Having occasion soon after to treat a case of spina bifida, in the Chicago Hospital, in a child about 13 years old, in whom the tumour was situated at the top of the sacrum, being nine inches in circumference, and about three inches in height, with thin walls, I determined to inject into the sac a solution of iodine, with a view of exciting inflammation and procuring absorption. This was done on the 2d December, 1847, in the following manner. A small puncture was made with a lancet half an inch from the base of the tumour, and a trocar of the size of a knitting needle carried obliquely into the sac. Through the canula of this, a solution of gr. i. of hydriodate of potash, with gr. ss of iodine, in a fluidrachm of water, was thrown into the sac, and the instrument withdrawn without allowing the serum to escape. A sharp pain followed, which soon subsided, and compresses were applied to prevent the escape of fluid. After the operation the tumour became red, tense, and tender; but these symptoms soon gave place to a remarkable flabbiness and contraction. By the 27th of December it had diminished to about half its former size. At this date a second injection was used of half the strength of the first, which produced but little heat or pain, and the compression was continued. On the 15th January, 1848, so much of the fluid was absorbed as to render it easy to press it down almost to a level with the surrounding parts, the skin was lying in wrinkles over it, and the bony opening could be distinctly felt. Since the last date a third injection has been made without any unpleasant result. Dr. Brainard thinks that the injection of a solution of iodine, (so far as

a single case can be taken as a guide,) is attended with but little danger, and may be capable of curing hydrorachitis.

Dr. Jno. C. Warren writes, that in the treatment of fractures of the condyles of the os humeri, a course is usually recommended which he believes to be hurtful, inasmuch as it favours the worst consequence of the injury, namely, loss of motion in the joint. The common practice, he observes, in the treatment of these cases, is to apply angular splints destined to prevent motion, and in about two weeks, to make passive movements for the purpose of preventing the adhesion of the fractured portions in such a manner as to impede the free action of the joint. By this mode of treatment, the fractured piece becomes sufficiently fixed to create partial anchylosis; and there is so much pain afterwards in the proposed passive movements, as to cause the omission of these measures, until permanent stiffness takes place. The proper course in the management of these accidents, he conceives, to be—1st. To apply no splints, but in the earlier days to make use of the proper means to prevent inflammation. 2d. To accustom the patient to early and daily movements of flexion and extension. 3d. When the action of the joint becomes limited, to overcome the resistance by force, and repeat it daily until the tendency of the joint to stiffen ceases.

The accomplishment of this process, he adds, is so very painful, that few patients have courage to submit to it, and few surgeons firmness to prosecute it. The consequence has been, that in a great number of cases the use of the articulation to a greater or less extent has been lost. The introduction of etherization by preventing the pain, gives us, in the opinion of Dr. Warren, the means of overcoming the resistance. By its aid, he has restored the motion of a considerable number of anchylosed elbows, and has successfully applied the same measures to other joints, particularly to the shoulder and knee. This has now become his settled practice, with the results of which he is entirely satisfied. The inflammation consequent upon the forced movements of an anchylosed joint, is not to be lost sight of. By a reasonable abstraction of blood and other anti-inflammatory treatment, he has never found it alarming.

Within a year or two past, attention has been, in a particular manner, directed to derangement of the cerebral functions following ligature of the common carotid artery. These cerebral symptoms are attributable either to cutting off the direct supply of blood to the brain, or to disease consequent upon the altered condition of the circulation in that organ. Nearly one-fifth of the recorded cases of

the operation in question, are found to have exhibited it in a greater or less degree; and the frequency of its occurrence has been singularly overlooked by practical surgeons. Two cases have been forwarded to the committee by Dr. Mettauer, of Virginia, in which it was observed: in these the vessels were taken up, in one instance, for an anastomosing aneurism of the antrum and nasal cavities, and in the other for the cure of a false aneurism. Both patients had lost large quantities of blood previous to the operations. In each case partial hemiplegia of the opposite side to the artery which was ligatured, was noticed in a few hours, and was followed by delirium and convulsions. In one of the instances, death occurred on the 8th, and in the other on the 10th day.

Autopsic examinations showed softening of the medullary substance on the side opposite to that on which the vessel was tied, while the hemisphere corresponding to it was healthy, though pale and bloodless.

ANÆSTHETIC AGENTS.

The recent introduction into the practice of surgery, of a class of medicines, possessing the remarkable property of annulling pain, has excited throughout the medical world an extraordinary interest.

So much has been written upon this subject, and so completely has the medical mind been engrossed with its consideration during the past year, that the profession throughout the United States may be fairly presumed to be, by this time, generally acquainted with the nature and effects of these agents.

The fact is established, that certain ethereal vapours when inhaled, will produce insensibility to pain, and that the most sensitive portions of the living body may be divided by the knife of the surgeon, while his patient lies in a state of unconsciousness.

This new revelation of science has been received by all with great interest, and by the more sanguine and enthusiastic in our profession, with admiration and gratitude. It is a truth, which, whatever may be thought of the benefits or evils which may arise from its application, cannot fail to command attention, developing as it does, a power over human suffering, now the first time revealed.

The great question, which still divides medical opinion, is: can the annulling of pain by anæsthetic agents be produced without risk to life, or is the hazard so inconsiderable as to justify their employment in all cases where it is desirable to prevent the pain of surgical operations? In other words, do the risks and evils attendant upon the use of these agents in surgery, counterbalance the advantages afforded by exemption from pain, and to what extent and under what circumstances is it proper to use them?

With a large and intelligent body of the medical community, including some of the most eminent surgeons of this and other countries, this question is considered as settled. They look upon the dangers of etherization as so inconsiderable, as to justify the induction of this state, prior to all surgical operations in which the pain is an important consideration, while they consider the advantages of anæsthetic agents to be especially manifest in all exten-

sive ones, involving life, where the nervous shock (which they believe lessened by them) might increase the risks of a fatal issue.

Another class of surgeons would restrict the use of these agents to severe operations, and discourage their general employment, under a belief that their full effect cannot be attained without a degree of danger which would render their indiscriminate use unjustifiable. While a small portion of the profession still object altogether to anæsthetics as dangerous and hurtful in their tendency, increasing the risks attendant on large and serious surgical operations, and embarrassing the proceedings of the operator, by causing delay and indecision in his movements. It is not within the province of your committee to sit in judgment upon these conflicting views, or to become partizans upon the question.

Within the past eighteen months a large mass of testimony upon this subject has been accumulated both at home and abroad, and has been freely circulated through the medium of the medical periodicals of the country, and other publications. Upon this evidence individual opinion must be based. Considering the brief period during which the powers of these agents have been on trial, it is not surprising that uniformity of opinion in regard to their value has not yet been attained. Those who differ widely upon the subject, are no doubt equally honest and sincere, and alike desirous for the final triumph of truth. The cautious and prudent may still withhold their assent from propositions, which their more sanguine brethren consider fairly proved, while the latter are at liberty to go on accumulating the facts upon which the claims of etherization must finally rest.

Your committee propose to confine their remarks upon this subject mainly to a few points.

Firstly.—To a brief history of the introduction of ether and chloroform into the practice of surgery.

Secondly.—To a description of some of the more obvious phenomena, which mark their action upon the system.

Thirdly.—To the results following their use in several large public institutions of the country, and in the private practice of some of our surgeons, who have considerable experience therein.

The second branch of this inquiry, involving a consideration of the physiological effects of anæsthetic agents, is one of much importance, and your committee submit, accompanying this report, and to form a part of it, a paper upon the subject, from a gentleman who has devoted much attention to it. (See C.—1.)

This paper, kindly furnished by Dr. Henry J. Bigelow, of Boston, treats of the mode of inhalation of ether, of the phenomena and signs of etherization, of the signification of these symptoms, the stages of anæsthesia and their mutual relations, with an analysis of the various symptoms observed, &c. &c.

In considering the origin of the discovery of the anæsthetic properties of ether, it must be a source of satisfaction to every American to know that the world is indebted to our country for this valuable tribute to science and humanity; while, at the same time, we must regret that the early history of the discovery is encumbered with angry disputes amongst rival claimants for the honour, and that attempts were made by those most intimately interested in the claim, to render their private interests paramount to those higher considerations which should animate the disinterested lover of truth.

Your committee will avoid, as far as possible, entering into these discussions, and proceed to give a succinct history of the introduction of ether inhalation into the practice of surgery. It appears that the idea of annulling pain by the nitrous oxide gas had been suggested long ago by Sir Humphrey Davy, and the late Dr. Horace Wells, of Hartford, Conn., had used this gas for this purpose as early as the year 1844, with partial success. Dr. Wells appears to have devoted much time and research to the subject: he went to Boston and lectured upon the feasibility of the practice, and performed an experiment in the presence of a number of gentlemen, at the Massachusetts General Hospital; but his experiments not being satisfactory he abandoned his plans, and the idea of annulling pain by inhalation of gases, slept, until revived in the year 1846 in a new form, and under circumstances which have conferred upon it its present importance.

The first successful experiment was performed by William T. G. Morton, a dentist of Boston, upon a patient, from whom he extracted a tooth on the 30th of September, 1846. This individual was made to inhale sulphuric ether from a glass globe constructed for the purpose, and in a few minutes passed into a state of unconsciousness, resembling sleep, during which a molar tooth was extracted, without any indication of feeling upon his part. On awaking, he was amazed at seeing the tooth upon the floor, and declared "that he did not experience the slightest pain whatever." No unpleasant effects followed, and the experiment was considered successful. New trials

were made in rapid succession by the same operator, without mishap, until the fact was considered fairly settled.

These experiments were not undertaken blindly, nor were the results discovered by accident. Dr. Morton had long harboured the idea of getting hold of something which should destroy the pain consequent upon his dental operations, and he had consulted with Dr. Charles T. Jackson, an eminent chemist of Boston, upon the subject. This gentleman alleges that he first communicated to him the fact, that sulphuric ether would answer the purpose—Dr. Morton being before ignorant of the properties of this article. Upon this latter point the parties are at issue, though it is understood that their names subsequently appeared in a patent, as joint inventors or discoverers of this new method of destroying pain.

About the 10th of October, Dr. Morton being desirous of testing the powers of this new agent in a surgical operation, applied to Dr. John C. Warren, for the liberty of administering it to a patient upon whom he was about to operate. Dr. Warren having satisfied himself of the safety of the experiment, yielded to the request, and it was accordingly administered by Dr. Morton to a young man, from whom a tumour was excised, in the Massachusetts General Hospital. The tumour was composed of tortuous, indurated veins, and was situated on the left side of the neck, just below the left portion of the lower jaw; it extended from the surface quite deeply under the tongue. The operation is thus described by Dr. Warren, in his late valuable treatise on Etherization:—"The patient was arranged for the operation in a sitting posture, and everything made ready; but Dr. Morton did not appear for the lapse of half an hour. I was about to proceed when he entered hastily, excused the delay which had been occasioned by his modifying the apparatus for administration. The patient was then made to inhale a fluid from a tube connected with a glass globe. After four or five minutes he appeared to be asleep, and was thought, by Dr. Morton, to be in a condition for the operation. I made an incision between two and three inches long, in the direction of the tumour, and to my great surprise, without any starting, crying out, or other indication of pain. The fascia was then divided, the patient still appearing wholly insensible. Then followed the insulation of the veins, during which he began to move his limbs, cry out, and utter extraordinary expressions. These phenomena led to a doubt of the success of the application; and, in truth, I was not satisfied myself, until I had, soon after the operation, and on various other occasions, asked the question, whether he suffered

pain? To this he always replied in the negative; adding, however, that he knew of the operation; and comparing the stroke of the knife to that of a blunt instrument passed roughly across the neck. Now that the effects of inhalation," adds Dr. Warren, "are better understood, this is placed in the class of imperfect etherization." On the 17th of October, this agent was administered a second time, to a patient in the hospital, from whom Dr. George Hayward removed a fatty tumour of the arm. The operation lasted seven minutes, and the patient was entirely unconscious during its progress.

At this stage of the proceedings, the surgeons of the hospital determined not to proceed with the experiments, unless informed of the precise nature of the agent employed. This decision was communicated to Dr. Morton, who thereupon addressed a letter to the senior surgeon, Dr. Warren, informing him that the article used, was sulphuric ether. On the 7th of November, this fact was communicated to a consultation of the surgeons in the case of a young girl about to submit to amputation of the thigh, and it was unanimously agreed that the ether should be administered to her as in the preceding cases. Dr. George Hayward, the operator, thus describes the effect in this important case:—"The patient," says Dr. Hayward, "was a girl of 20 years of age, named Alice Mohan, who had suffered, for two years, with a disease of the knee, which terminated in suppuration of the joint, and caries of the bones. For some months before the operation, her constitutional symptoms had become threatening, and the removal of the limb seemed to be the only chance for life. The ether was administered by Dr. Morton. In a little more than three minutes, she was brought under the influence of it; the limb was removed, and all the vessels were tied but the last, which was the sixth, before she gave any indication of consciousness or suffering. She then groaned and cried out faintly; she afterwards said that she was wholly unconscious and insensible up to that time, and she seemed to be much surprised, when she was told that her limb was off. She recovered rapidly, suffering less than patients usually do after amputation of the thigh, regained her strength and flesh, and was discharged well on the 22d of December."* From this time the inhalation of ether was adopted in the practice of the Massachusetts General Hospital, and received the warm approval of the Board of Surgeons attached to that excellent institution. Various instances of its successful employment also

* See Dr. George Hayward's Paper, Boston Med. and Surg. Journal, vol. xxxvi., No. 12.

occurred in the private practice of gentlemen in Boston and vicinity. Dr. A. L. Pierson, of Salem, Mass., used ether with perfect success in the removal of a fatty tumour as early as November 14th, 1846.

On the 3d of November, 1846, Dr. Henry Jacob Bigelow, one of the surgeons of the hospital, read a paper to the American Academy of Arts and Sciences, and on the 9th of November, to the Boston Medical Improvement Society, detailing the facts which had fallen under his observation, and vouching for the efficacy of this new agent in annulling pain. This paper was published in the *Boston Medical and Surgical Journal* of November 18th, and deserves special notice as the first medical publication on etherization, whereby the news of the discovery was promulgated to the world.

Within six weeks of the publication of this paper, ether had been tested in London, and found warm advocates amongst the surgeons of that metropolis; and in less than three months it was introduced into the Parisian hospitals, and was highly eulogized by the leading surgeons of Paris. From this point the fame of etherization spread rapidly through Europe. While these events were in progress, the practice was slowly adopted in the country of its birth; several weeks elapsed after the publication of Dr. Bigelow's paper before the subject was noticed by the medical press of the United States, and then it was in tones of doubt and incredulity, and it was not for several months that the practice became at all popular south of Boston. The first operation performed under the influence of ether, in the New York Hospital, was in February 1847. At the coming together of the last meeting of the National Medical Association in Philadelphia, but few of the members had any practical experience of the effects of this novel remedy.

This indifference to the discovery was probably owing to several causes. One of the most prominent of which was the taint of charlatanism which attached itself to its early history, and which created a prejudice against it, in some minds so strong as to prevent them from giving to the subject a full investigation. This feeling against secret and patented medicines happily prevails in the medical profession to a great extent, it is deep-rooted and sincere, and is based upon the highest considerations of public utility; if, in this instance, it was carried too far, the motive was, at least, just and honourable; and the fault lies more with the discoverers, who attempted to conceal the nature of this new agent under the name of "compound letheon," than with the profession. Another reason why etherization was slowly adopted, was the in-

stinctive fear of an agent which produced such peculiar and apparently alarming effects, which possessed the minds of the profession, and which prevented many prudent practitioners from pushing the practice to a point at which its full effects were attained. This caution gave rise to many apparent failures, and discouraged experimenters from further trials.

The favourable reports which were continually received from our brethren in Boston and its vicinity, and from the other side of the Atlantic, were, however, not without their effect; and within the past year, the inhalation of ether has been extensively used throughout the United States. It is resorted to in most of the large hospitals of the country, and at the public clinical dispensaries of the schools, as a preparatory measure before all important operations, as well as in the private practice of many physicians and surgeons. The medical press of the country, although not unanimous in its favour, (so far at least as its general application is concerned,) teems with cases and results in which ether has been safely employed, under a great variety of circumstances.

In the latter part of the past year a new and more powerful anæsthetic agent was announced under the name of chloroform, an article which is but another variety of ether. This substance, though previously known both in this country and in France, was first used for the purpose of annulling pain in the human subject, by J. Y. Simpson, M. D., the eminent Professor of Midwifery in the University College of Edinburgh, and the first accoucheur who ventured to employ ether as a means of destroying the pains of parturition.

Professor Simpson's paper on the "Super-induction of anæsthesia in natural and morbid parturition; with cases illustrative of the use and effects of chloroform in obstetric practice," was read before the Medico-Chirurgical Society of Edinburgh, on the 1st of December, 1847, and reached this country in the early part of this year. It created a strong impression favourable to the new agent proposed by Dr. Simpson, and induced many practitioners at once to adopt it as a substitute for ether. The advantages claimed for chloroform over ether by its advocates, are its more rapid and intense action; without the vascular, muscular and intellectual excitement, which usually precedes the full impression of ether. The several stages of etherization are blended, as it were into one, the full impression of chloroform being induced in from 30 to 40 seconds, while an average period of four minutes may be considered as necessary to produce a like effect from ether. The quantity required is

also much smaller, from thirty drops to a drachm being generally sufficient—and ʒi of chloroform being equal in strength to ℥iv of ether.

The odour and taste of chloroform are also said to be more agreeable, and the bronchial irritation produced by inhalation less than with ether.

These and other supposed advantages are claimed for chloroform, and have been considered sufficient by many surgeons to give it the precedence, as an anæsthetic over its predecessor. How far this confidence may be deserved, future experience must determine. We know of several American surgeons who, after repeated trials with chloroform, have returned to the ether with renewed confidence in its superior safety and its equal efficacy. We shall quote the sentiments of these gentlemen in another part of this report, hoping that the observations of another year will determine the relative merits of these two articles, or that others may be discovered of still greater value.

Having thus endeavoured to present a brief sketch of the history of the introduction of ether and chloroform into surgical practice, your committee will proceed, in the same brief manner, to state some of the more prominent phenomena which mark the action of these agents upon the system. For a more full exposition of this part of the subject, they must refer to the several able treatises upon the physiological action of anæsthetic agents, which have recently appeared; and to the very interesting paper of Dr. Bigelow, which accompanies this report. Their object is only to notice some of the effects of these agents, as they are influenced by idiosyncrasy or temperament, as these have direct reference to the question of their applicability to surgical practice.

Although the general effects produced by the inhalation of ether are similar, yet peculiarity of temperament, and particular states of the system, have an important influence in modifying the phenomena which manifest themselves. In this respect these agents present a striking analogy to anodynes and stimulants generally.

While in most individuals, inhalation will produce calmness, repose and sound sleep, placing the patient in a favourable condition for operative procedures; in others, the same article administered in the same way, will produce high nervous excitement, great restlessness, and even convulsions, rendering it necessary to postpone the projected operation. Though the general effect is to destroy pain, instances occasionally happen where it is impossible to produce this

result, either by ether or chloroform, in justifiable doses; while there are other cases in which a very small quantity of either of these agents will produce a degree of unconsciousness not to be attained at all in the cases referred to. In some instances pain will be annulled by ether, while the intellectual faculties, and even the sense of touch, will be preserved—the patient is aware of what is passing, can express his wishes, and can feel the movements of the surgeon, and yet the sense of pain is obliterated—while in others the full impression of the article carried to the point of entire unconsciousness, is necessary to destroy the pain. Vomiting occurs as an accompaniment of etherization in a considerable number of cases, while in others it is absent. The condition of the circulation varies also; generally in the earlier stages of the process the circulation is quickened, the pulse becoming slower as the impression of the ether deepens—while in other cases it is slower from the first, or continues rapid through the whole process. When etherization has been carried to its full extent, the phenomena are, perhaps, more uniform. At this point the muscles become relaxed, the breathing is deep, slow, and stertorous; the eyes are turned up, and the countenance is devoid of expression, as in sound sleep. Sometimes the features are so relaxed, as to exhibit the peculiar expression of idiocy or drunkenness. In this stage, according to the recent observations of Dr. Snow, of the University College Hospital of London, (whose essay on the effects of ether inhalation contains much valuable information,) the patient always remains perfectly passive under every kind of operation; and as the muscles are so perfectly relaxed, this is the proper time for the reduction of dislocations, &c. This condition would appear to those unaccustomed to it, as alarming, but, according to this author and others who have practiced etherization extensively, it is unattended with danger, and passes off in a few minutes after the discontinuance of the inhalation.

The causes of these varied effects are not well understood, and may furnish an objection to the general employment of these agents, by rendering their administration in some instances improper, or even dangerous. And it is only by the future observations of physicians of calm judgment and of enlightened experience, that we are to look for rules which shall regulate their employment, and shall indicate the class of cases to which they are inapplicable.

As it relates to the safety of the practice of etherization; your committee have before remarked that a difference of opinion still exists.

It is nevertheless true, that ether and chloroform have been largely employed in the hosptials of this country and of Europe, and in other situations where surgery is practised upon an extensive scale, and that many thousands of persons have been subjected to their influence without apparent injury. In the St. Bartholomew's Hospital alone, we are informed by a recent letter from Mr. Lawrence to Dr. John C. Warren, of Boston, that they have been used between two and three thousands times without injury or accident; while the statistics of several large institutions where etherization has been extensively practiced, from the period of its first introduction, would seem to indicate at least as favourable a termination of the large operations involving life, as at any previous period. In the late paper of Professor Simpson, before referred to, it is stated that, "out of above 300 cases of the larger amputations performed during the current year, upon patients in an etherized or anæsthetic state, and which I have collected from different hospitals in Great Britain, Ireland and France, a smaller proportion died than formerly used to perish in the same hospitals, under the same operations without etherization." The statistics upon which this assertion is founded, so far as it relates to amputation of the thigh, (one of the most severe of the large operations,) will be found in the paper of Dr. Simpson, pp. 14 and 15. (*American edition.*)

A list of all the operations performed in the hospitals of Paris upon etherized patients up to the 1st of March, 1847, was collected by Dr. Yandell, of Kentucky, at that time residing there; and published in the *Western Journal of Medicine and Surgery*, at Louisville, in June of the same year, which go to confirm the assertion of Professor Simpson in reference to this point. M. Burguieres, a French writer, made a similar investigation, and has published a table of 211 operations performed in the French hospitals, which would also show a diminished mortality, in the classes of operations where the anæsthetic state was induced. This table will be found in *Ranking's Abstract* for 1847.

The reports of many eminent surgeons, who have used these agents extensively, are equally favourable, and some of these gentlemen believe that not only do they possess the power of preventing pain, but of increasing the chances of life after large operations.

With a view of collecting the results of operations performed upon persons in an anæsthetic state in the hospitals of this country within the past year, your committee addressed letters to gentlemen connected with these institutions in several of the larger cities

of the Union, where they believed ether had been employed to the greatest extent. They have received tables from the Massachusetts General Hospital, from the New York Hospital, and from the public clinics of the University of Pennsylvania and Jefferson Medical College, Philadelphia, which are herewith presented. (See *Appendix* C.—2., C.—3., C.—4. and C.—5.)

Your committee are aware that etherization has been practiced in the clinical dispensaries and hospitals of other cities of the Union, and that it has been used extensively in the private practice of many American surgeons; but the period allotted to the preparation of this report, and the desire not to extend it beyond reasonable limits, have prevented the collection of all the facts which might have been derived from these sources.

Before introducing the tables referred to, your committee will, however, communicate some valuable information, which is contained in the Medical Journals of the country; or, which has been communicated to them by letter, in which the experience of several American surgeons, not connected with the institutions referred to, is detailed.

Dr. Paul F. Eve, of the Medical College of Georgia, reports 12 cases of important surgical operations performed by him upon patients under the influence of ether and chloroform in the months of January, February and March 1848; one case of amputation at the shoulder-joint, and one of lithotomy are included in this number. Complete insensibility was induced in all the cases except two. Those in which ether was used, required more time to produce the effect, but it was equally complete. The chloroform acted promptly and efficiently in all the cases but one. Dr. Eve is a warm advocate for etherization in surgery, and prefers chloroform to ether.*

In the city of Louisville, the seat of a large and thriving medical school, ether and chloroform have been extensively used during the past winter, and we learn from the *Western Journal of Medicine and Surgery*, that Dr. Gross, the Professor of Surgery in the school there, has frequently employed these agents in important operations with gratifying results.

In Chicago, Illinois, the location of the Rush Medical College, etherization has been recently employed by Dr. Brainard, the Professor of Surgery, with happy effects, in several surgical operations.

* See *Southern Medical and Surg. Journ.*, March and April.

In Cincinnati, Dr. Mussey, Professor of Surgery in the Medical College of that city, reports a series of sixteen surgical operations, in which anæsthesia was induced by him, in a paper in the *Boston Medical and Surgical Journal*, of April 15th, 1848. Chloroform was used in all these cases, without a single unpleasant symptom. A letter from Dr. Mussey containing some additional facts upon this subject, has also been received by the committee, which they present with this report. (See *Appendix* C.—5.)

Dr. Charles Bell Gibson, Professor of Surgery in the Medical College of Richmond, Va., and a member of this committee, reports five cases, in three of which chloroform was used, and in two, sulphuric ether. One of amputation of the thigh, for disease of the knee-joint, in which the effect of ether was perfect, and the patient recovered without a bad symptom—and another for the removal of a large malignant tumour from the neck, the operation lasting twenty-five minutes, and the patient sixty years of age. In this case the effect was less decided. In the three cases in which chloroform was used, the anæsthetic influence was not fully induced, and in one a degree of excitement took place, amounting to frenzy, which delayed the operation.

Dr. A. L. Pierson, of Salem, Mass., also a member of the committee, reports sixteen cases of operations performed under the influence of ether or chloroform, (besides several amputations of fingers,) since November, 1846, without the slightest permanent bad effects in any case. One amputation of a leg, and another of the arm, with two cases of strangulated hernia, are included in this number. In twelve operations ether was used, and chloroform in four.

In regard to the relative merits of ether and chloroform as anæsthetic agents, the profession is divided in sentiment. Many surgeons prefer the latter agent as more prompt, energetic and controllable; while others, who have had considerable experience with both articles, prefer the former as more safe, and equally effectual. As this question is one of great interest at the present time, your committee will quote the recent observations of several gentlemen on this point.

Dr. John Watson, of New York, one of the Surgeons of the Hospital, and a member of this committee, in a letter, dated April 8th, 1848, states:—"It will be perceived, by referring to the accompanying tables, that at the hospital we have been in the habit of using chloroform to the exclusion of ether, ever since the former

was brought to the notice of the profession in this city, but for reasons above stated (the increased risk of the chloroform, &c.), I am disposed to return to the ether, and since resuming duty on the 1st of the present month I have laid the chloroform aside. My colleague, Dr. Buck, is also disposed to coincide with me in this. We have as yet become aware of no decidedly fatal case from ether as we have from chloroform, or any, in which its ill effects have been so serious as to lead to its total condemnation, but would not, however, use it for trifling operations."

Dr. Geo. Hayward, of Boston, in a letter dated April 10th, after stating that he had used ether in hospital and private practice since its first introduction, "without any bad effects in a single case," remarks: "I have also used chloroform to some extent, and it has answered the purpose in every case without causing any alarming or troublesome symptoms. At the same time, I confess I am somewhat timid about it, from the unfavourable reports in relation to it from various quarters." Dr. Hayward further states, in this communication, that within the last few weeks the Surgeons of the Mass. General Hospital have been using pure chloric ether, and thus far it has succeeded perfectly well. It has the advantage over the sulphuric that it is entirely free from unpleasant odour.

Dr. Horner, of Philadelphia, remarks on this subject, in a letter dated April 9th, 1848:—"The use of ether and chloroform inhalation has become so extensive that anything said now can scarcely affect public opinion. The first I have used very freely since May last, and especially during the last six months, and am happy to say that no accident has occurred with it that would impair materially its fame. I believe it to be one of the admirable discoveries of modern science in its application to medicine.

"Chloroform strikes me as being more uncertain in its action, and subjecting the patient to high cerebral excitement, and accumulation of blood in the brain. From some few limited observations I have come to the conclusion, that however innocuous these articles may be after puberty, both care and judgment should be scrupulously exercised in the anterior periods of life."

Dr. Mutter, of Philadelphia, remarks in a note accompanying the tables, from the Jefferson Medical College—"I have witnessed in my own practice, and that of others, at least two hundred experiments, in severe operations with ether and chloroform, and up to the present moment no accident or serious mishap has occurred. Indeed, with the ether, I have witnessed nothing approaching to

inconvenience, much less danger. The chloroform, however, has in two or three cases produced symptoms, which, for a short time, occasioned some alarm, but in the end no evil consequences ensued. In consequence of these examples of what seemed to be dangerous effects, I have, for some months past, confined myself ordinarily to the use of ether."

Etherization has also been found a convenient means of enabling the surgeon to execute painful explorations of the bladder, and other sensitive parts. On this point, the committee refer again to the interesting letter of Dr. Warren, before quoted. Dr. W. states: "The operation of lithotrity has been prodigiously improved by the practice of etherization. The patient, instead of disturbing the search of the operator by his movements, experiencing no suffering, lies perfectly tranquil. On this day, March 8th, I attended with Dr. J. Mason Warren, a patient suspected of calculus. He had been examined a number of times, however, without discovering any stone. In fact, the excessive agitation of his body rendered it impossible to sound him thoroughly. We etherized him pleasantly by chloric ether, and, though his consciousness was not lost, he was sounded without pain or movement. A very hard stone was discovered and struck half a dozen times by each of us. Before the instrument was withdrawn, etherization passed off, and he began to cry out. The whole process required fifteen minutes, seven before the instrument was introduced. We have had opportunity of employing etherization in one case only of lithotomy. It answered perfectly, and must, I think, prove of great utility in all cases of this operation."

Dangers of Etherization.—Although the anæsthetic state, so far as the results have been recorded, does not appear to be generally attended with danger, yet it must be admitted that agents capable of rapidly annihilating sensation, volition, and intellect, and of producing sudden changes in the circulation and respiration, and even of altering the constitution of the blood itself, must be liable to abuse and danger in their use. In this respect they are like other potent articles of the materia medica, which have the power of greatly and speedily modifying the functions of the economy.

There may also be idiosyncrasies of constitution, peculiarly obnoxious to the influence of these agents, and diseased states of the

system, in which even their cautious use may prove dangerous or even fatal.

Many cases of apparently alarming symptoms from the use of both ether and chloroform have been reported, amongst which may be mentioned convulsions more or less severe and protracted, prolonged stupor, high cerebral excitement, alarming and long continued depression of the vital powers, and asphyxia. As secondary effects, bronchitis, pneumonia, and inflammation of the brain, have, in a few cases, been attributed to the inhalation of these vapours; while some have supposed that they produced deleterious effects upon the blood, which interfered with the reparative processes of nature, after wounds, accidents, &c.

As it relates to the relative safety of the two articles, ether and chloroform, there would seem to be a decided preponderance of testimony favourable to the former.

The action of ether is slower and less intense, and the anæsthetic state is generally preceded by a greater degree of excitement than is observed with chloroform, but this fact would seem to render the ether more controllable.

It is the sudden and powerful impression produced upon the vital energies, which constitutes one of the chief dangers of anæsthetic agents, and hence, *à priori*, the rapidity and intense energy with which chloroform acts would seem to render it less safe than ether.

The dangers arising from asphyxia from exclusion of atmospheric air in the process of inhaling, by the present improved methods of inhalation are, for the most part, guarded against. During the brief period in which chloroform has been on trial (less than six months) the number of fatal results, fairly attributable to its use, exceeds those of ether, (at least so far as the reports from this country testify,) while ill effects arising from it have been reported from various quarters, and, as before remarked, have determined several of the most eminent surgeons of the country in returning to the article originally employed.

The number of well attested fatal cases resulting from the inhalation of ether is small, and in this country we know of no case having been published.

The committee having been informed that a fatal case had recently occurred in the practice of Dr. J. W. B. McClellan, of Philadelphia, after an operation for lithotomy performed upon a child, while under the influence of ether, addressed a letter of inquiry to Dr. McClellan on the subject, to which the following reply has been

received. As the case is here fairly reported, and as the letter contains other important information, they have deemed it proper to incorporate it into this report.

My Dear Dr.

In compliance with your request of this morning, I enclose you the result of my experience with sulphuric ether and chloroform.

I have used the ether in a number of surgical operations, twice for lithotomy, many times for the removal of scirrhus mammæ and other tumours—for strictures of the urethra—both in dilatation and cutting to the bladder, besides a great variety of cases of lesser importance, and altogether must have administered it on upwards of fifty occasions. In all these instances I have never seen any bad effects following its employment excepting in *two cases*—one of them was a case of lithotomy, and in the other, where it was given for the removal of a tumour in the femoral region, it produced the effects of the nitrous oxide gas in so violent a degree, that I was compelled to postpone the operation, and the patient was seriously ill for several weeks. In the case of lithotomy, regarding which you have desired information, the child died on the morning of the third day after the operation, apparently from the effects of the sulphuric ether.

I say *apparently*, as the congestion of the lungs, of which the patient died, might have happened from other causes, and it has been questioned by some, who saw the case with me, whether it was not brought on by exposure to cold after the operation, to which the child was somewhat carelessly subjected. There can be no doubt that congestion of the lungs, ending in effusion, was the cause of death. The patient, whilst in this state, was carefully examined throughout its progress by Drs. Clymer, Keating, Mayer, and others, who all concur in opinion. The calculus was of so large and unusual a size, and required necessarily so long a time to extricate it from the bladder, and the child so young (18 months), that even without the use of the ether he might have sank from the shock of the operation. There was, however, no evidence of such a shock to be perceived; in all other respects, as before stated, everything did as well as could have been desired. The urine flowed freely from the incision, which looked sound and healthy.

If the fatal result was owing to the ether, I am convinced that it was from its too long continuance and too powerful administration; indeed I have never witnessed a patient more completely under its influence, so unconscious and lifeless. The child was under its influence for twenty-five minutes, and was roused with great difficulty by the application of cold water to the head and breast. The ether was administered by means of Dr. Roper's inhaler. Most unfortunately the opposition of the parents and friends prevented our obtaining a post-mortem examination. These, my dear Dr., are the facts of the case. My own opinion, as well as that of the gentleman before mentioned, is that the congestion of the lungs was pro-

duced by the long-continued irritation of the ether upon the delicate structure of the lungs. I have stated all the circumstances which might tend to modify that conclusion.

But viewed in any aspect, I cannot see how this or any unfavourable case reported, can militate against the general use of ether. Like all powerful and efficient remedial agents, there must be *some cases* to which it is not suited, and were we to reject this account, we might, with equal propriety, dismiss from the materia medica many of our most useful and indispensable agents.

I am convinced that its use *has saved many lives*, and enabled many patients to safely bear severe operations, which otherwise they could not have done. In the other case of lithotomy, which I performed under its influence, I am satisfied this was the result. In that instance, a boy of 9 years old, the patient was in such a wretched condition that I do not think he could have borne the slightest shock to the system. And with the assistance of the ether there was none whatever perceptible, though I was obliged to crush the stone in the bladder, as it was too large to come through the bones of the pelvis, and the operation, owing to the unexpected difficulty, and my not having the requisite instruments with me, was prolonged, and the patient under its influence thirty-five minutes. The fragments of the stone weighed, when I reached home, (the operation was performed in Luzerne Co.,) eleven drachms (troy), and several drachms more must have been lost.

The boy recovered without the slightest bad symptom; the wound was entirely healed in four weeks and one day, and he is now running about well and sound.

This case I have mentioned in contrast with the unfortunate one before spoken of.

The ether, then, I am convinced from my own experience, as well as that of the great body of the profession, is one of the greatest blessings of our science, and each day the more confirms my opinion.

The chloroform has, in one case, in my hands, caused dangerous convulsions, and, after a fair trial, I give my preference altogether to the ether.

The best method, and the safest one, I think, of administering the ether, is as done at Boston with the sponge.

These remarks I have hastily thrown together on the spur of the moment, in accordance with your request.

Truly yours,

J. W. B. M'CLELLAN, M.D.

Dr. Isaac Parrish.

Philadelphia, *April 29th*, 1848.

Fatal effects following the use of chloroform have been more frequent than from ether. Besides several cases which have occurred abroad, and have been published in the foreign journals, two well authenticated instances of death, under the immediate influence of

this agent, have taken place in this country, one in New York, and the other in Cincinnati.

As every fact connected with the toxicological effect of these agents is important, we shall briefly record the history of these cases as derived from the published statements of them which have appeared. The case in New York has not been reported in the medical journals; but the following sketch of the facts, which appeared in evidence before the Coroner's jury, is sufficiently full for our purpose, and is believed to be substantially correct:—

"Coroner Walters yesterday held an inquest, at the house of John Howard, 50 Cherry Street, on the body of Patrick Murphy, a native of Ireland, aged 28 years. From the testimony adduced, it appears that the deceased was married about four months since, and resided at Mamaroneck. For some months past the deceased had been afflicted with fistula; otherwise he had apparently good health. About four weeks since, the deceased came to this city to have an operation performed. Last Monday four weeks ago, the deceased attended the clinic of the College of Physicians and Surgeons, and was operated upon by Dr. Parker; previous to the operation, the deceased inhaled chloroform, under the direction of Dr. Parker, until insensibility was produced. The operation was unattended with pain, and after the operation was over, deceased inquired whether the doctor had done. In a short time afterwards, he was able to walk home. Dr. Beers visited him the same day, and continued his visits daily. The health of deceased seemed to improve; his appetite was good, and, in every respect, appeared to be doing well. Drs. Beers and Otto Rotton informed the deceased, last week, that to make the cure effectual, it would be necessary to perform another operation, as one of the sinuses had not been opened. The deceased expressed a willingness to have the operation performed, if they would administer to him the chloroform. Yesterday morning, Drs. Beers and Rotton called upon the deceased, and, previous to performing the operation, dropped upon a sponge about thirty drops of chloroform, and caused the deceased to inhale it. The drug did not cause complete insensibility. The operation was performed in about a minute; the deceased showed signs of pain, by placing his hand on the part operated upon. In a moment, his pulse, which was full and natural, sank. Stimulants and frictions were applied—the temporal artery opened, no blood flowed—life was extinct. Dr. James R. Wood made a *post-mortem* examination of the body; the features of the deceased were calm, countenance pale, and the pupils of the eyes much dilated—the anterior aspect of the body natural—the posterior livid. On opening the head, the brain and membranes were natural and healthy—the lungs were found studded with tubercles—in the right lung was an abscess the size of a hen's egg, filled with pus—there was, also, an abscess in the left lung—the lower portions of the lungs were congested with blood—there were, also,

extensive adhesions of the pleura to the chest, showing that the deceased had at some remote time, had an attack of inflammatory disease of the chest. The heart was enlarged, pale and soft; the blood-vessels filled with a dark fluid blood, and two or three ounces of serum in the membrane covering the heart. The other viscera of the body were healthy, except the stomach—the mucous membrane of which was softened, and the veins turgid. Dr. Wood gave an opinion that there was sufficient disease of the lungs to cause death, but could not say that the administering of chloroform had hastened death—where abscesses exist in the lungs, any excitement might cause sudden death. Where disease of the brain, lungs, or heart exists, or where there is a predisposition to either of these diseases, it would be improper to administer chloroform. Disease of the lungs may exist without presenting symptoms to attract attention. The existence of fistula would go far to conceal the existence of disease of the lungs. The *post-mortem* examination was made in the presence of Dr. Rotton, Dr. Sayne, Dr. Beers, and Drs. Robson, Elliot and Witherell. Verdict of the jury, 'That Patrick Murphy came to his death by disease of the lungs. The jury are unable to say whether the inhalation of chloroform in this case, or the excitement of the operation was the immediate cause of death.' "

The case in Cincinnati is as follows:—A lady, in her 36th year, in the enjoyment of good health, and the mother of six children, repaired to the office of a dentist, for the purpose of having some roots of teeth extracted. Fifteen minutes after her arrival, and without any apparent alarm or excitement, she commenced inhaling chloroform. While inhaling, the face became pale. According to the testimony of the female attendants, the instruments were applied, and four roots of teeth extracted, at the expiration of two minutes. As the last root came out, the patient's head turned to one side, and the arms became slightly rigid, the body was drawn somewhat backward, with a tendency to slide from the operating chair. The pulse and respiration are said to have ceased about the same time. The face now became livid, as also did the finger nails, the lower jaw dropped, and the tongue projected a little at one corner of the mouth, and the arms were perfectly relaxed. Efforts were made to resuscitate the patient—ammonia was applied to the nostrils, cold water dashed in the face, mustard, brandy, &c., applied. The patient was now removed from the operating chair, and laid on a sofa, but the witnesses thought that she did not breathe, nor exhibit any sign of life, after being placed in the recumbent posture.

The dentists stated—that they administered the chloroform vapour from Morton's inhaler; it contained a sponge (perhaps one-third filling the glass globe of 4½ inches diameter) saturated with the

liquid; to this twenty-five drops more were added, when the patient began inhaling. Breathing at first slow; inhaled 12 or 15 times, occupying from a minute to seventy-five seconds. "One of the dentists thinks she remained about 10 minutes in the operating chair, and that life was not extinct until the end of that time; the other estimates the time at 5 minutes."

One says he does not know whether she breathed after being laid on the sofa or not, the other thinks she did not. The chloroform used was the same as previously employed in numerous cases, without unpleasant results.

Medical aid was not obtained until after the patient was laid upon the sofa. Dr. A. H. Baker, who was the first physician there, did not reach the house until probably 30 minutes after respiration had ceased. Even at this period, vigorous measures were instituted for resuscitation—under the direction of Drs. Locke, Mussey and Lawson, but without effect. A post-mortem examination was made 26 hours after death, by Dr. Lawson, in the presence of Drs. Mussey, Baker and Mulford. A minute account of which is detailed, with the history of the case, in the *Western Lancet* for March, 1848. We need only state here some of the more prominent post-mortem appearances. The lungs were considerably but not intensely injected, crepitated freely at all points, no extravasation. Lining membrane of the bronchiæ slightly congested, apparently the result of recent catarrh. Pleura at all points highly injected; six drachms of bloody serum in the right, and two ounces in the left chest.

Pericardium contained six drachms of bloody serum, heart flaccid, and all its cavities entirely empty; inner surface of both ventricles and auricles deeply stained. Aorta and pulmonary artery empty; no blood in the cava within the chest, and a very small quantity in the part which lies within the abdomen.

Nothing remarkable in the brain, or cavity of the abdomen. The blood was as fluid as water in every part of the body; not a coagulum was seen in any vessel. Examined with a microscope, the globules appeared altered somewhat in form, some were irregular in shape, and they seemed generally distended and more globular than is normal; they were also somewhat fragmentary, a part apparently having been ruptured; their number seemed somewhat diminished. The colour in every part of the system was that of dark venous blood. Some judicious remarks on the above case will be found in the paper of Dr. Mussey, in the *Boston Medical and Surgical*

Journal, before referred to, and in the April number of the *Western Lancet*, by Dr. Lawson.

Your Committee have endeavoured, in the preceding sketch of the history of anæsthetic agents, to bring before the Association the prominent facts which have transpired; and to embody the results of the experience of the surgeons of the country who were known to them to have practiced etherization extensively.

They have, as far as practicable, avoided the discussion of theoretical questions, or the expression of positive opinions relative to the merits of this discovery. On this latter point, their views are not accordant; while a portion of the committee believe that the facts now before the profession have fully established etherization as a powerful, highly useful, and practicable means of annulling pain, if judiciously employed; yet another portion do not feel prepared, from the evidence presented, to recommend the use of these agents.

Your committee have had their attention directed to the important subject of the curability of cancer, and to the results of operations upon this class of tumours.

They have received interesting letters from a number of gentlemen experienced in this matter, but owing to the press of other business, they have not been able to place this information before the Association in a matured form. And they, therefore, place these letters in possession of the Association, for the benefit of their successors.

All which is respectfully submitted.

GEO. W. NORRIS, *Philadelphia*,
ISAAC PARRISH, *do.*
JOHN WATSON, *New York*,
A. L. PEIRSON, *Salem, Mass.*,
HUGH H. McGUIRE, *Winchester, Va.*

C.—1.

ANÆSTHETIC AGENTS,

THEIR MODE OF EXHIBITION AND PHYSIOLOGICAL EFFECTS.

BY HENRY J. BIGELOW, M. D.

THERE is no difference of importance in the general character of the insensibility or other symptoms resulting from the inhalation of *ether* and *chloroform*. The latter, whose discovery in this relation the world owes to Professor Simpson, is much more potent than ether, more palatable, and less irritating to the lungs.

Chloric ether was extensively employed by Mr. Lawrence, and has been since used by other experimenters. Its effects are apparently identical with those of common ether, than which it is if anything less powerful, while its vapour may be a little less irritating. Its odour is certainly more agreeable.

Nitrous oxide was employed by Horace Wells in his experiments. It was then found to produce exhilaration out of proportion to its inebriating properties. In order to place this gas in circumstances favourable for its complete effect, it should be furnished to the lungs as freely and as pure, as ether vapour from the evaporating surface of liquid ether. It should be supplied from a large gas-holder, and not from a small gas bag; and that portion of the gas which has been deprived by the lungs of its inebriating principle, should be exhaled as waste. Thirty quarts thus inhaled by myself produced complete but brief insensibility; and on the 26th of April, I removed a breast by the aid of about twice that quantity, consumed during six minutes, and producing a most tranquil and complete insensibility. Though bulky, nitrous oxide is quite likely to prove a certain, as well as safe, and agreeable anæsthetic agent, administered in the above manner, which I have not seen alluded to. In the case mentioned, the pulse, which Dr. Townsend was good enough to note

for me, rose from 90 to 120, and continued at that point during the operation.

Aldehyde, used by Monsieur Poggiale, although it is said to be stronger than chloroform, is also conceded to be more suffocating than ether, the odour of which it has. It is probable, therefore, that ether is the less objectionable of the two agents. It produces, says Professor Simpson, much bronchial constriction and coughing.

Nitrate of ethyle, upon the same authority, is also rapid and powerful in its effects; yet produces excessive noise and fullness in the head, with subsequent headache and dizziness.

The bisulphuret of carbon, a rapid and powerful anæsthetic, has "a peculiarly offensive smell of putrid cabbage."

Benzoin. The vapour of this liquid, of rather a pleasant aromatic odour, is said to be less powerful than that of chloroform. In the hands of Mr. Snow it produced in the patient certain convulsive tremors. The four last agents are "not comparable," says Professor Simpson, "with chloroform or sulphuric ether, either in their manageableness or in their effects."

By a rough estimate of the quantity consumed in operations, chloroform is eight times as strong as ether; and a drachm of the one or an ounce of the other, is a fair allowance for inhalation at the commencement of the process. As it evaporates, the fluid may be replaced if necessary.

The absolute necessity of interposing something between the lips and the inebriating agent, when the latter, like chloroform, irritates the skin, was quite over-estimated in the case of common ether; and the public attached as false a value to the inhaling apparatus, as to the stethoscope in a kindred science. In administering ether, an inhaling apparatus is occasionally convenient. The more complicated form, in all its modifications, contains as its chief element the double valve originally suggested by Dr. Gould; and a tube furnished with it may be dilated or constricted so as to represent almost all the principal inhalers in use.

For brief and repeated inhalation, and to avoid the odour of sulphuric ether, as well as to retard its evaporation, an inhaler is convenient; but for common purposes, a bell-shaped sponge is quite efficient, and is to be turned from time to time during an expiration, to bring the gravitating ether to the top.

With the introduction of chloroform the invention of apparatus received new impetus. Its stimulant, and even vesicating properties contraindicate the direct application of this fluid to the skin.

The simplest contrivance is the best, and Simpson's folded handkerchief rolled into a cone answers well for a brief inhalation. Channing's pasteboard cone, so cheap that each patient may have a new one, lasts through an average midwifery case; a lamp-chimney, stethoscope, or other tube containing a sponge answers equally the purpose, while for the rapid and complete insensibility required for surgical purposes, and for hospital use, some more durable form of apparatus is requisite. It should comprise a mouth-piece, a receptacle for the sponge, and a diaphragm to prevent the flow of the fluid towards the mouth.

It is optional whether the vapour enter the system simultaneously through the mouth and nasal orifices, or by the mouth alone, the nostrils being closed. It has been said, that the effect is more immediate when the nasal cavities are filled with vapour; but the difference in the time of inhalation, if any, is inconsiderable.

It is a striking fact, that in many of the first experiments both in this country and abroad, vapour was inhaled from a shut cavity or sac in which the contained oxygen must have been rapidly exhausted. If there is one condition vital to the safety of inhalation, it is that an *adequate supply of oxygen should be insured to the patient.*

Inhalation should be of atmospheric air impregnated with vapour, and not of vapour alone. Air should be conducted through the medium containing the inebriating agent, and not merely to and from a closed cavity.

The production of the brief insensibility which suffices for the extraction of a tooth, is rarely accompanied with danger or with embarrassing circumstances; but the administration of ether for a length of time in a surgical operation, demands much attention. Now it is difficult for the surgeon to attend at once to a dissection, perhaps remote from the head, and at the same time to satisfy himself of the adequacy and safety of the anæsthetic state; and it is therefore not improbable that the part of etherizing, especially for a length of time and to a considerable extent, will be soon recognized as involving an entirely distinct responsibility, from that of the surgeon who performs the operation.

Let a patient be now subjected to any of the ordinary modes of inhalation, with the view of inducing for examination, some of the ordinary phenomena of etherization. It is unnecessary either to extenuate or to dissemble the symptoms which occasionally occur during the approach or continuance of the anæsthetic state. Though alarming in connection with the causes which previous experience

had assigned to them, many of them are of comparatively trifling import as a sequence of an anæsthetic agent; while, on the other hand, a few comparatively quiet indications stand at the limit of vital endurance, and give notice of real danger. The order of experience,—a few type or model cases as they occur, will perhaps afford the readiest method of exposing these phenomena.

1. A patient courageously inhales the ether;—a term intended to include the chloroform. Soon the respiration becomes more rapid; the chest heaves; the lips are blown out with the expiration, and while the patient is manifesting unequivocal signs of enjoyment, the head suddenly falls to one side, and the individual during the next two or five minutes is insensible to pain in any form. He awakes suddenly, smiles, is surprised to find the operation, if one has been performed, over; has had a pleasurable dream, and experiences no ill effects. This is etherization in its most favourable form, less frequent than the next.

2. A second patient averts his head to cough; inhales again and again coughs; declares his inability to take the ether; yet perseveres. The trachea has now become less irritable; respiration is tranquil, and insensibility of rapid access. Such cases are quite common in the practice of the dentist.

3. A third subject makes grimaces, and getting exhilarated rejects the apparatus; but is still amenable to peremptory discipline; and being directed to be quiet and to close his eyes, is soon narcotized.

4. Yet not always at once. A large and muscular man, perhaps habituated to stimulus, sometimes modifies grimace into a demonstration of resistance; closes his lips and jaw firmly, and refuses to inhale; objects to verbal and other interference; at last becomes violent, and if athletic, requires the united force of several assistants to confine him.

Here is a sufficient reason for not attempting the etherization of athletic subjects when such aid is not at hand. I believe that the best practice in such a case is to confine the patient, and to apply the ether steadily to the mouth and nose. For some seconds, perhaps many, the patient may refuse to breathe; and bystanders unaccustomed to the phenomena, exchange significant glances. But if the pulse is good there is no real danger, and at last, exhausted nature takes a deep and full inspiration, which, while it aërates the blood, is laden with the intoxicating vapour; colour returns; and the patient falls back narcotized. Violent resistance is not common.

5. It is, however, less unfrequent for the patient to vomit soon

after the appearance of the signs of etherization; and partly from the exertion, and partly from the inspiration of fresh air, he may then recover sensibility.

6. Lastly, the signs of insensibility having been manifested, the operation is begun. In a few moments the patient partially regains his consciousness, and exhibits the unequivocal appearance of suffering, which may or may not be subsequently remembered; or without being violent, is wild and uncontrollable.

It will be observed, that in all these cases, ether was administered for a comparatively short time. The result of such brief inhalation is brief narcotism, either complete or incomplete. If inhalation be arrested at this time, the period of subsequent insensibility to pain varies from one to three minutes. This short or partial insensibility is adapted to the operation of the dentist, which is usually rapid; the instrument is applied, and whatever be the demonstrations of the patient, it accomplishes its purpose. Here are no important nerves to be severed, nor vessels to be wounded. But in a dissection, such as occurs in many surgical operations, especially in one of a formidable character, it is important that the subject of the operation should not hazard his safety by being liable to sudden and convulsive movements while the knife is dealing with the tissues. If the patient thus partially revives, assistance is not unfrequently required to confine him, and it is necessary to re-administer the ether; the whole interfering materially with the tranquillity of the operation, and the comfort of those concerned; perhaps endangering the welfare of the patient.

Although many operations were performed abroad, both in England and upon the continent, and at no remote date, upon patients yet capable of movement and resistance, yet there is an obvious want of safety in operating under these circumstances. Decided preference should be bestowed upon a condition of complete and passive narcotism, provided it can be produced with equal certainty, and is equally free from serious results.

Such a condition is quite possible, and a short time suffices to induce a train of symptoms indicative of it. Let the inhalation be continued beyond the period, during which the patient exhibits the earlier signs of narcotism. The muscles will be found gradually and completely to relax under its influence; and at a later period the inspiration becomes a snore. The patient exhibits no sign of consciousness, and is, in short, profoundly narcotized.

In the symptoms hitherto detailed, two stages of the anæsthetic

state will readily be recognized; the first embracing the phenomena of partial consciousness, while the second presents the indication of total insensibility.

These two stages of anæsthesia demand separate consideration.

First Stage.—The first stage is characterized, either by the incomplete or partial character of the narcotism or by its brief duration. These phenomena suggest the notion that the blood is insufficiently impregnated with ether, or that the vapour has affected a portion only of the circulating fluid, the influence of which upon the brain is soon counteracted by the arrival in the cerebral vessels of fresh and unadulterated blood. Such theory illustrates the degree and the duration of the phenomena attending such inebriation.

The first stage requires for its induction a comparatively small proportion of the ether vapour. Insensibility, if complete is brief, and the patient revives in a period varying from one to three minutes, commonly without nausea, headache, vertigo, or other sensations of discomfort. But in certain cases, and especially when either from pulmonary irritability, or want of determination on the part of the patient, the dose has been insufficient, and its inhalation by consequence protracted through a period of six or eight minutes, a different range of symptoms is presented. The patient may be bewildered, like a man waking from a deep sleep, or uncontrollable except by moderate coercion. At this time the pulse is natural, or yet more frequently accelerated, either from exertion, or perhaps it has not regained its normal standard after the unavoidable excitement of anticipation. Though in the first stage of anæsthesia we might expect the pulse to be accelerated, yet it often deviates but little from its natural standard. Nor is the pupil especially affected in this stage. The muscular fibre is yet animated by the nervous influence, and is generally somewhat rigid; the arm resisting flexion or extension. Occasionally it exhibits the phenomena of catalepsy, retaining any position given to the limb. In rare cases I have noticed the access of clonic spasm, local or general in its invasion. When the spasm affects the glottis, it gives rise to a peculiar symptom, to be alluded to hereafter.

To the first stage of anæsthesia belong those remarkable and unanticipated physiological phenomena, which seem to unlink the intimate connection between sensation and an intellectual recognition of it; between cognizance and memory; between will and action.

A patient, thus partially etherized, is said quietly to criticise the amputation of his own leg, or resists the dentist's instruments, and to appearance suffers, and yet remembers nothing of it; or remembers, but has not felt; or, which is unpleasant and fortunately rare, has felt but could not move. Such occurrences, familiar to the early history of etherization, have been somewhat less frequent, since the subject has been better comprehended. Yet at a comparatively recent date, partial consciousness of the patient during an amputation, for example, has been regarded as a circumstance of unforeseen occurrence, and not always amenable to ready influences.

The inconveniences of partial consciousness have been alluded to; and I am now especially desirous of exposing the advantages of a state of inebriation, during which the patient lies passive and motionless, exhibiting only the phenomena of deep sleep.

Second Stage.—Such is the second stage of anæsthesia, essentially characterized and identified by muscular relaxation. Let the subjects of the last mentioned experiments continue inhalation. The arm, from time to time, when raised from the side, resists. Soon, however, it becomes flexible, and at last, falls passive and motionless. The voluntary muscles are now relaxed; and it is impossible at this moment to rouse the patient. This stage requires for its induction a considerable quantity of ether vapour, which may be presented to the pulmonary surfaces either rapidly in the course of two or four minutes, or a more diluted vapour may be administered during a protracted inhalation of many minutes. In the former case, anæsthesia is of rapid access, and in its most favourable form. But in the latter, the dilute and protracted inhalation is often accompanied with the annoyances of partial anæsthesia, and it will be stated in another part of this paper that other symptoms, especially that of vomiting, are quite apt to interfere with inhalation before the inebriation has reached its second stage. The commencement of this state of narcotism, characterized by passive flexibility of the arm, suffices for any brief surgical operation, which is not likely to be impeded by the movements of returning sensibility. Yet this insensibility at its inception, though complete, is brief, and the revival of the patient often sudden.

A few additional inhalations so impregnate the system with the vapour, that revival is deferred for some minutes after the inhalation of pure air. Ether is this way cumulative in its effects. Besides this, recovery is then generally not instantaneous, but gradual

and preceded by the signs of returning consciousness, which indicate the readministration of the anæsthetic agent, and enable the surgeon thus to anticipate interruption. Protract the inhalation yet a little longer, and the inspiration becomes a snore; the pulse, which may or may not have been previously accelerated, beats slowly; while the pupil is frequently, though not invariably dilated.

Some little familiarity with these phenomena is required to enable the surgeon so to graduate inhalation as to continue the patient in this state of tranquil and deep sleep with safety.

There is no doubt that it can be done if necessary. I have frequently myself maintained insensibility nearly or quite complete for thirty minutes, and even for a longer period. While the snore is heard, the patient does not revive; yet the snore is an unnecessary symptom, and is an indication for the temporary suspension of inhalation, when a few inspirations of unadulterated air soon re-establish quiet respiration; and the patient is liable, at any moment, to swallow or give other indication of approaching consciousness. The cumulative effect of ether, before alluded to, is at this time to be borne in mind. Young subjects, too, require less than adults; so that after eight or ten minutes of insensibility in the adult, or a considerably shorter period in the young subject, the system has been impregnated with ether, and inhalation may be discontinued even before the snore is heard, without apprehension that the subject will rapidly recover. The signs of returning consciousness are the limit on one side of that degree of anæsthesia, which it is important to maintain during most surgical operations, and are indications for the reapplication of the inebriating agent, when it is desired to protract insensibility.

At the other limit of the second stage of anæsthesia, is a far more important indication of over-narcotized vitality; and here is the protection against danger. Without this safeguard, I conceive that it might well be hazardous to overshadow animal existence by this mysterious and powerful agency. The sign is *the diminution of the force and frequency of the pulse.*

In a case of the early administration of ether, at which I was present, and which has been reported, the danger from over narcotism was quite as imminent as in any case, not fatal, I have seen since alluded to. As a bystander, on that occasion, I casually felt the pulse, and found it barely distinguishable; and though it subsequently still decreased, the means at once adopted for the restoration of the patient, proved ultimately successful. This occurrence pointed

to the pulse as an indication of the stage of narcotism; a few subsequent experiments confirmed the opinion; and I have not since hesitated to push etherization to complete insensibility, and to continue it, if necessary, during a length of time, provided the pulse remained full and strong. If it be retarded, it is curious to observe with what certainty it recovers force and frequency, after a few inspirations of pure air. It will be inferred from these remarks that the pulse is to be carefully examined during the whole anæsthetic process, and that inhalation is to be temporarily discontinued at its indication.

Briefly to recapitulate, the first insensibility, partial though it be, suffices for the dentist. It exhibits the intellect and sensibility in novel and singular relations; while muscular force may or may not be impaired. Nothing is here infallible in pulse or pupil.

The second stage is of great value, and often essential to the surgeon. It lies between the signs of returning consciousness on the one hand, and the decreasing pulse on the other. It is ultimately accompanied by snoring inspiration, and the partially dilated pupil; which, together with the period of time necessary for the cumulative effect of ether, may be considered, each, as an additional indication for the temporary suspension of inhalation.

Signs of Narcotism.—The eyes are usually closed during inhalation. Let the patient be directed to open them. If etherized, he takes no notice of the voice. Perhaps the head droops; or the hand supporting the inhaling apparatus falls. These, alone, are signs of narcotism, which may be incomplete; or, if complete, temporary in its duration. If, in such a case, the arm of the patient be raised from his side, it is quite likely to resist the effort; or when raised, remains extended; phenomena indicative of partial narcotism. If inhalation be now suspended, the patient soon regains his consciousness; either manifesting unequivocal signs of pain, or resisting interference, during the half conscious state which often precedes recovery.

It should be added, that if the patient has inspired a good dose, and for a length of time, the dentist may consider any unusual manifestation, as an indication of but partial sensibility to sudden pain; protracted inhalation may be even taken as its priori evidence.

One of the early and occasional consequences of inhalation is a passive cessation of the respiration, while the pulse continues good. At this moment a tooth may be painlessly extracted; but as the vapour has now temporarily ceased to gain access to the lungs, the patient may revive before the next inspiration.

Muscular relaxation; the temporary loss of muscular contractility; the passive flexibility of the arm; is the most valuable sign of complete narcotism. It is succeeded by snoring inspiration and slow pulse.

Signs of returning consciousness are, swallowing, coughing, moaning, an effort to articulate, and muscular movement.

Rapidity of access of the Anæsthetic State.—Somewhat modified by the strength and temperament of the individual, the rapidity with which the system yields, is generally in direct relation with the dose administered. The maximum dose will be again discussed under the head of dangers; but it may be here stated that many of the unfavourable symptoms owe their existence to the protracted inhalation of an inadequate dose; while after the first irritation of a large volume of vapour at once introduced into the air tubes has subsided, the patient yields tranquilly, and is much less liable to disagreeable and annoying symptoms.

Vomiting is especially connected with the long duration of the inhalation, and also with its inadequacy. So, also, is general excitement, and resistance; and probably spasm, whether of the vocal chords or of the muscular system generally.

The common imperfections of the inhaling process are, the use of too large a sponge for ether, and of too small a sponge for chloroform. The former distributes and evaporates the ether rapidly, while its insterstices admit a good deal of air. The latter will not detain an adequate amount of chloroform without endangering the patient's skin. If the sponge be previously wrung out in water, its capillary attraction is increased.

ANÆSTHETIC SYMPTOMS CONSIDERED SEPARATELY.

Intellectual Phenomena.—It is said that a patient may take cognizance of the amputation of his own leg. This occurrence I have never seen, though it is far from improbable. It implies a distinct recognition of surrounding objects through special sense, at a moment of complete insensibility to pain in its severer forms. Such complete insensibility is more frequently attended with entire disability of special sense; yet sensation may be partially annulled, and the patient continue quite cognizant of the external world.

The manifestation of acute suffering, and even of well-directed resistance, may occur without the patient's subsequent remembrance of it. Here the faculty of memory is extinct.

Or memory may recall the manifestations of an operation of which it has forgotten the sensations. And it is said that cognizance and memory may be distinct, while the machinery of muscular action is deranged.

Mental excitement, hilarious or hostile, is not uncommon in an early stage of narcotism, and is materially influenced by its rapidity.

Pulmonary irritability varies with the individual.

Chloroform is less irritating to the lungs than ether, and so, perhaps, is chloric ether.

Violent cough is occasionally excited by a small quantity of vapour, while a much larger quantity may occasion none; but by a little careful graduation of the first few inspirations, the patient may be saved much unnecessary irritation. Soon pulmonary sensibility is narcotized, and the patient breathes quietly. Even habitual dyspnœa, or the paroxysm of asthma, is temporarily solaced by this agent. As the process is continued, the trachea becomes insensible to the presence of fluid, whether blood from operations near the mouth, or the increased natural secretions of the pulmonary surface.

Nausea and vomiting are not uncommon sequences or concomitants either of partial or complete anæsthesia; nor, beyond their interference with the progress of the inhalation, and with the mere comfort of the patient and of the operator, are they objectionable. They are allied to the nausea induced by other narcotic and inebriating agents, and have especial relation with the duration of the anæsthetic process.

The snoring inspiration indicates profound sleep. Varying a little in the facility of its production in different individuals, it is a constant phenomenon of a certain stage of narcotism. While it is often desirable to induce this symptom, its exhibition renders further inebriation unnecessary for the moment. It is always accompanied with muscular relaxation, and soon succeeds it. It results from the relaxation of the muscles of the palate; and in this connection it is desirable to distinguish it from another symptom, of somewhat different signification, viz:

Stertorous respiration, due to spasmodic action of the vocal chords, and allied to the spasmodic action of other muscles. It is somewhat rare in its occurrence; once heard, it will be readily recognized, and indicates a brief suspension of the inebriating process. Though of itself, it is quite unimportant, yet as the immediate cause of another symptom, it deserves further consideration. The closure of the

laryngeal aperture shuts off the supply of atmospheric air from the pulmonary tubes. The same condition results from the voluntary closure of the mouth and lips; but the last soon yields, while the spasm of the glottis gives rise, in rare cases, to a partial asphyxia, indicated by the then livid colour of the cutaneous surface. Similar lividity is often exhibited during a spasm of whooping-cough or in a hysteric fit, and is of comparatively slight importance, from the fact that when the system feels peremptorily the necessity for air, the spasm resulting from the anæsthesia relaxes, the patient breathes freely, and the blood is aerated. Two or three inspirations suffice to restore to the cheek its natural colour.

Muscular System.—The ordinary affections of the voluntary muscles have been alluded to. Organized resistance resulting from nervous excitement; tonic and clonic spasm; the cataleptic state being not unfrequent; while in one case I observed a convulsive effort of the whole system of voluntary muscles.

Other muscles are partially affected. The sphincters very rarely lose their contractility. It is well known that the uterus contracts during partial and even complete unconsciousness; a diminution of cessation of its contractile action being the rare exception and not the rule. The respiratory muscles play tranquilly during narcotism, while the heart, losing the force and frequency of its pulsations, slowly ceases to beat, in its latest and profoundest stage.

Pulse and Pupil.—Incidental excitement usually accelerates the pulse, the relative frequency of which, during the earlier stage, it is difficult from this circumstance to estimate. It does not lose either in force or frequency until the whole system is profoundly narcotized. It is then, as at other stages of the process, a most valuable indication of the condition of the nervous system, and ultimately of the limits of vital endurance.

The pupil, though commonly at first contracted, and subsequently dilated, is less to be relied on as an indication.

Prolonged insensibility is quite exceptional and rare. In the case of a young woman, of the details of which I am cognizant, such insensibility ensued upon a brief recovery of the ordinary character, and after the ordinary interval. The patient then again became insensible, apparently without cause, and slept heavily, in spite of efforts to arouse her, during an hour. The symptom which excited apprehension, was the smallness of the pulse, which at times was barely perceptible at the wrist. This patient ultimately recovered, as I believe, have all others similarly affected. The phenomena sug-

gested those occasionally presented after an amputation, when the patient awakes in acute suffering, and again spontaneously sleeps while stitches are inserted.

A few phenomena only remain to be noticed.

Convulsions have been reported, occurring at the interval of many hours after inebriation.

A gentleman of Providence informs me that he has suffered for many months from *vertigo*, *headache* and *disability for labour*, which ensued upon a dose of ether vapour.

Such cases, with others which have been detailed, must be considered as exceptional, due to peculiar and individual susceptibility, and they are also of exceeding rare occurrence.

It may be convenient to arrange etherization under several distinct heads, adapting its degree to the character of the surgical operation for which ether is to be administered.

1. *In amputations and other brief surgical operations, and in the extraction of teeth.*—In this latter case, inhalation may be discontinued a few moments after insensibility. In the former, it is better to continue it two or three minutes longer, and till muscular relaxation. For the extraction of teeth, the patient may himself retain the sponge. When the hand wavers, or falls, the mouth is carefully, but if need be, forcibly, opened, without loss of time, and the forceps are at once applied. In this way one or more teeth may be removed while the patient is in an unconscious or half conscious state, but free from pain.

2. *Protracted dissections* may be commenced a short time after insensibility; the sponge being continued to the mouth, with an occasional interval to insure the patient ample supply of oxygen. When there is snoring respiration, the sponge should be removed during the short time required to re-establish quiet inhalation. The pulse is kept in hand, and any diminution of its frequency or force, especially the former, is an indication for the admission of unadulterated atmospheric air. Forty-five minutes is a somewhat unusual duration of insensibility, and is not to be attempted by those not conversant with the process. It is important to the operator, in these cases, that the patient should be fairly narcotized, and with a little experience with a rigid attention to the above precautions, accident need not be apprehended.

It may be added that much of the pain of a dissection is not of an acute character likely to arouse the patient; so that after some time has elapsed, a state of semi-consciousness often suffices; the vapour

being then applied, either during the intervals of the operation, or as manifestations of pain or resistance may present themselves.

3. *Hare-lip.*—With this operation may be included others upon the nose and mouth, fauces and trachea. It has been presented as the type of such operations, because it embraces several particulars of interest. An operation in this region is often a dissection, and of the parts concerned in inhalation. It is, therefore, impossible to continue this process during manipulation. If, then, in such a case, the patient is to remain insensible, the surgeon has two alternatives; one of profoundly narcotizing the patient in the first instance; the other of re-administering the ether; often at an inconvenient moment, and when the operation is materially interfered with. Of these alternatives, the former seems to me the least objectionable. Another important feature in these operations, is the liability of the blood to accumulate in the trachea, which is no longer irritable or conscious of its presence. When a tracheal rale gives indication of the collection of a considerable quantity of blood or other fluid in this region, the patient should be made to lean forward, to facilitate the natural expulsive efforts of the expiration or of the cough, as consciousness returns. In general during operations upon the face and jaw, under the influence of ether, the patient should be sustained in a position inclining somewhat forwards, and care should be taken to prevent, as far as possible, by sponges or otherwise, the recession of blood into the buccal cavity. Protracted operations upon the fauces are difficult, if not impractible, with the use of ether. On the other hand, the admission of instruments to the trachea, especially from the outside, is, without doubt, thus facilitated.

4. In *dislocation*, it is obvious that ether inhaled, can be of no avail unless continued to the relaxation of the muscles.

It is well known with what facility dislocation is reduced upon the dead subject; and it is quite probable that all recent and favourable cases in the living subject may be reduced with almost equal facility, when muscular relaxation is completely effected. This is confirmed by one or two cases of dislocated shoulder, which have fallen under my notice. I have met with no case of recent dislocated hip since the introduction of the anæsthetic agents. It would be desirable, in such a case, that an attempt should be made completely to annul muscular resistance, before efforts are directed to the replacement of the bone.

It is equally evident that the reduction of hernia can be facilitated only by muscular relaxation, and that anything approaching

to spasm would aggravate the difficulty of reduction during its access.

Lastly, ether has proved of service in abating the spasm of stricture, in lithotrity, and in the breaking up of adhesions resulting from fracture near the joints. Yet in the latter cases pain has always offered sure indication of the advisable extent of the respective operations, and in its absence, considerable discrimination is to be exercised. I have myself seen an arm refractured by an attempt to overcome the resistance of a mass of callus, after the adhesion of the articulating surfaces had yielded.

Age.—Experience shows that no especial ill effects result from the administration of ether to patients of average physical force at almost any age. Though I have operated on a child of three months, who was so far inebriated that its cries were modified into a sort of moan, yet I know of no case in which a young infant has been completely narcotized after its birth. Indeed, the facility of controlling a child of this age, together with the fact that it has neither the anticipation nor remembrance of suffering, however severe, seems to render this stage of narcotism unnecessary.

Antidotes.—It has been well said that fresh air, and in an extreme case artificial respiration is the best antidote to ether inebriation.

The symptoms of spasm, vomiting, &c., generally subside when the patient is left to himself. When the pulse is small and slow, this state of *narcotism* must not be identified with that of *syncope*. Brandy and other diffusible stimulants, appropriate remedies for syncope, belong to the class of agents which induce the anæsthetic symptoms; and it is quite probable, though evidence is yet incomplete upon this point, that the difficulty would only be aggravated by their use. Besides, the patient cannot always swallow. Cold water, dashed upon the face, or injected into the ears, undoubtedly aids in arousing the patient from the common ether narcotism. Galvanism to the precordial region has been suggested as a remedy in an extreme case; and it may be a question whether rest in the recumbent posture or active exercise, as adopted for the restoration of subjects affected with narcotism from opium, be best adapted for these cases. If any fluid is to be administered internally, analogy would suggest strong tea or coffee.

The nature of the anæsthetic state is a question of considerable interest. Perhaps the most satisfactory evidence upon this point, is that afforded by the analogy between the symptoms resulting from ether vapour in the lungs, and those of alcohol in the stomach.

Both, in small quantities, produce exhilaration. Both, in a large dose, produce the phenomena of dead drunkenness, and both, insensibility to pain. With alcohol, the state persists, while the fluid remains in the stomach; and patients have been at once aroused by the use of the stomach pump. In like manner anæsthesia continues, while ether vapour fills the lungs; respiration pumps the ether vapour from that receptacle, and gradually aerating the blood, terminates the anæsthetic state. Alcohol is found in the blood by chemical analysis; ether is equally detected in it by its peculiar odour.

Convulsions have been noticed in rare connection, both with ether and with alcohol. Finally, there is in ordinary cases, no great solicitude for the safety of a patient who is dead drunk, and experience has shown that ether narcotism is very rarely accompanied with danger.

Time does not serve for an analysis of the evidence relating to the effect of ether upon the different portions of the nervous system; nor is this evidence of a conclusive character. There may be some connection between the spasm, occasionally produced by alcohol and ether, and that induced by opium, alluded to by Todd and Bowman, resulting from polarity of the spinal cord, in cold-blooded, and even in warm-blooded animals.

Upon the same authority spasm of the glottis is among the results of irritation of the medulla oblongata. On the other hand, the medulla oblongata has been considered by Flourens, who claims this point as his discovery, to be the last stronghold from which life is driven by the anæsthetic agent. The animal then dies. Yet spasm of the glottis is not a formidable symptom.

The details of experiments in this obscure branch of physiology may be found in the papers of Flourens and of Longet, and may be compared with the intellectual phenomena elsewhere alluded to in this paper.

Dangers.—It remains only to speak of the dangers of the anæsthetic state. From this category, the symptom of asphyxia may be rejected; this being an evil easily anticipated, when due to an imperfection in the process; to the non-admission to the lungs of oxygen. Gradual and overwhelming narcotism may also be anticipated and arrested. The danger arising from the specific effects of an inebriating vapour in the pulmonary tubes may be considered, 1, as a question of experience and fact; and 2, of analogy and probability. As to the fact, I have been unable to find any fatal case

clearly resulting from the inhalation of ether, until the very recent one at *Auxerre*, apparently resulting in part from convulsions improperly treated, and in part from a neglect of the indications which the pulse affords. Of this case the details are imperfect. Deaths, like those reported by Nunn and Robb, occurring at an interval of twenty-four hours or more after the operation, may or may not have been accelerated by ether; which does not prevent, nor is to be considered responsible for, the ordinary collapse resulting in certain states of the system, after certain injuries and certain operations. The strong argument in behalf of ether is, that so few opportunities have occurred in which it could be even suspected of agency in fatal results.

With chloroform the evidence is a little different. Two somewhat remarkable cases of death, occurring during the brief administration of this agent for surgical purposes at once present themselves. The Cincinnati case and that of Mr. Meggison at Winlaton. In these cases death occurred in about five minutes from the beginning of the inhalation. In the Cincinnati case the quantity inhaled must have been considerable, from a saturated sponge in a four inch glass globe; yet in Meggison's case a drachm only was applied upon a handkerchief. It is quite possible that death resulted in the latter case, as Mr. Simpson avers, from asphyxia produced by the administration of brandy and other liquids before the patient was able to swallow. Such error would be easily avoided. Yet these instances suggest a specific cause of danger. This is the sudden impression upon the system of a powerful inebriating agent. Abundant alcoholic stimulus has often produced immediate death; and analogy would suggest that inebriating vapour in the lungs may be the equivalent of similar fluid in the stomach; and that in one or both the cases alluded to, chloroform may have produced a sudden and overwhelming shock upon the system.

Apart from the somewhat obscure case, before alluded to, there is no authentic evidence that sulphuric ether has been a cause of sudden death; and there is little doubt that this immunity from danger in its use is due in part to the comparatively moderate degree of its inebriating property, and in part to its volatility. Chloroform is much stronger than ether, while it is less volatile; so that although the vapour of a few drops may only give rise to moderate symptoms, and then escape by exhalation, that of a large quantity whose volume the lungs might easily contain, might powerfully impress the system, while the delay of its evaporation would materially

enhance its cumulative effects. Such theory suggests a consideration of practical importance. That in the use of chloroform a moderate dose should be inhaled gradually and not at once.

It is obvious, too, that the agency of heat to promote its evaporation, must increase the chance of danger. I think it may be laid down as a rule that a drachm of chloroform, at ordinary temperatures, suffices for a gradual inhalation of three minutes in the average adult. In recognizing a possible danger from an instantaneous and powerful dose on the one hand, it must not be forgotten that many of the unpleasant symptoms of the anæsthetic state are undoubtedly induced, and aggravated by protracted and futile attempts to produce insensibility, with an insufficient dose. Experience shows that after the first few minutes, and with due regard to the condition of the pulse, it is safe to increase the quantity of ether or of chloroform, until the inspired air is fully saturated, and the patient fairly narcotized.

If there is any one consideration calculated to arrest attention in the history of etherization, it is, that although the anæsthetic agents have been open to liberal use in every part of the civilized world, whether experimentally, ignorantly, or carelessly; although thousands have experienced their good effects; and although the physiologist, the ether opponent, and the coroner, have been equally ready to seize upon and to exaggerate any case of accident that might seem to fall within their range; yet it is probable that the number of cases, thus publicly suspected, have been less than ten, while the only conclusive instance of direct relation between an anæsthetic agent and death are two in number. Can antimony or opium show as clean a bill of health for the same period?

C.—2.

List of patients who have inhaled ether or chloroform for surgical operations in the Massachusetts General Hospital, up to April 1st, 1848. Furnished by H. J. Bigelow, M. D.

N. B.—Those marked * inhaled chloroform; the rest ether.

Date.	Sex.	Age.	Operation.	Disease.	Discharge.
1846. Oct. 16	Male	20	Ligature of	Erectile tumour	December 7, well.
" 17	Out patient		Removal of	Fatty tumour	Well.
Nov. 6	Female	19	Amputation of thigh	Dis. of knee	December 22, well.
" "	do	53	Remo. of lower jaw	Carcinoma	November 30, well.
Dec. 5	do	55	Amp. of breast	do do	February 12, well.
" 9	Male	30	Reduction of	Dislocated humerus	December 10, well.
" 12	Female	58	Removal of	Carcinoma (up. jaw)	December 24, well.
" 13	Male	47	Plastic operat. after	Slough. of scrotum	December 31, well.
" 19	do	21	Removal of	Deformity in lip	December 24, well.
" 22	Female	58	Reduction of	Dislocated humerus	December 29, well.
1847. Jan. 2	Male	27	Operation for	Fistula in ano	January 14, well.
" "	Female	42	Amputation of leg	Dis. of ankle	February 23, well.
" "	Male	24	Amp. of fingers	Accidental injury	Jan. 3, much reliev'd.
" 9	Female	57	Amputation of leg	Necrosis	April 20, well.
" 19	do	27	Removal of	Malig. dis. of labium	Feb. 8, much reliev'd.
" 23	Male	51	do do	Fatty tumour	February 8, well.
Feb. 6	do	42	do do	Cancer of lip	February 9, well.
" "	do	23	Operation for	Traumat. aneurism	March 4, well.
" "	do	27	Removal of	Vascular tumour	February 26, well.
" 20	do	27	Amputation of leg	R. R. accident	July 31, well.
Mar. 6	do	25	Removal of	Exostosis	April 15, well.
" "	do	50	Actual cautery	Dis. of spine	Nov. 1, not relieved.
" 13	do (out patient)	32	Removal of	Tumour on face	March 19, well.
" "	Female	24	do do	Encysted tumour	Well.
" 14	do	40	Operation for	Vesico vag. fistula	Vide infra.
" 24	Male	39	Amputation of leg	R. R. accident	March 29, dead.
Apr. 3	do	50	Actual cautery	Dis. of spine	Vide supra.
" "	Female (out patient)	25	do do	do do	June 24, not relieved.
" "	Male	34	Removal of	Tumour on face	Uncertain.
" "	Female	19	Amputation of leg	Dis. of tarsus	May 13, well.
" 7	Male	30	Amputation of thigh	R. R. accident	April 9, dead.
" 14	Female (out patient)	40	Operation for	Vesico vag. fistula	May 3, well.
" 17	Female	32	Reduction of	Dislocated radius	Well.
" "	do	35	Removal of	Colloid tumour	May 10, well.
" 24	Male (out patient)	21	Operation for	Necrosis of tibia	June 15, much rel'd.
" "	Female	20	Removal of	Polypus nasi	Well.
" 29	do	38	do do	Tumour on knee	September 24, well.
May 1	do	23	do do	Scirrhous parotid	June 18, well.
" "	do	39	do do	Epulis	May 3, well.
" 8	do	39	Amp. of breast	Carcinoma	June 9, well.
" "	do (out patient)	23	Evulsion of nail	Onychia	Vide infra.
" "	Male		Breaking down	Stiff elbow	Uncertain.
" 13	Female	23	Amputation of toe	Onychia	May 29, well.
" 15	do	34	Amp. of breast	Carcinoma	June 15, much rel'd.
" "	Male	67	Amp. of penis	do do	June 9. well.
" "	do	49	Removal of	Cancer of lip	May 17, well.
" 26	Female	53	do do	Tumour on face	July 19, well.

Date.	Sex.	Age.	Operation.	Disease.	Discharged.
1847, May 26	Male	20	Amp. of finger	Whitlow	June 25, well.
" "	Female	25	Actual cautery	Dis. of spine	Vide supra.
" "	Male	22	Laying open	Sinus in thigh	July 19, well.
" 29	do	49	Amp of breast	Carcinoma	July 28, well.
" "	do	29	Introduct. of seton	Ununited fracture	Oct. 31, much rel'ved.
June 5	do	60	Amputation of thigh	Necrosis of tibia	July 4, dead.
" "	do	23	Division of cicatrix	Contracted fingers	August 7, relieved.
" 8	do	22	Amputation of arm	Injury by mach'ry.	September 11, well.
" "	Female	35	Amp. of breast	Carcinoma	June 28, well.
" 11	Male	17	Removal of	Glass in thigh	June 19, well.
" 13	do	31	Punct. of bladder	Retention of urine	August 27, well.
	(out patient)				
" 19	Male	33	Removal of	Fatty tumour	Well.
" 24	do	45	Amputation of arm	R.R. accident	June 24, dead.
" 25	do	59	Ligature of	Hæmorrhoids	July 8, well.
July 3	Female	19	Removal of	Epulis	August 18, well.
" "	Male	19	Operation for	Dis. of fibula	Vide infra.
" 14	do	39	Amputation of thigh	Dis. of knee	August 9, well.
" 19	do	23	Division of cicatrix	Contracted fingers	Vide supra.
" 21	Female	19	2d operation for	Epulis	Vide supra.
" 30	Male	45	Breaking down	Stiff knee	Dec. 2, much rel'ved.
Aug. 3	do	29	Insertion of pegs	Ununited fracture	Vide supra.
" 7	Female	30	Operation for	Fistula in ano	October 25, well.
" "	Male	47	do do	Strangulated hernia	August 21, dead.
" 14	Female	39	Breaking down	Stiff shoulder	September 3, well.
" "	Male	3 m.	Extirpation of testis	Encephaloid dis.	August 17, well.
" 18	Female	30	Amp. of breast	Carcinoma	September 4, well.
" 21	do	26	do do	do do	
" "	do	10	Dissecting out	Cicatrix of burn	Sept. 23, relieved.
" 28	Male	43	Ligature of	Hæmorrhoids	September 10, well.
" "	do	57	Removal of	Cancer of lip	September 14, well.
Sept. 2	do	40	Amputation of leg	R.R. accident	September 3, dead.
" 4	do	25	Amputation of thigh	Fungoid tumour	October 25, well.
" "	Female	36	Removal of up. jaw	Carcinoma	Sept. 14, relieved.
" 8	Male	28	Trephining os calcis	Caries	November 2, well.
" 18	do	37	Removal of	Polypus nasi	September 20, well.
" "	do	60	Amputation of arm	Malignant ulcer	December 15, well.
" 25	do	42	Removal of	Fatty tumour	Sept. 28, much rel'd.
" "	do	25	Trephining tibia	Caries	Nov. 2, much rel'd.
" 27	do	25	Amputation of leg	R.R. accident	January 14, well.
" "	do	26	do do	do do	December 21, well.
Oct. 2	do	19	do do	Spina ventosa	March 2, well.
" "	do	63	Amputation of arm	Encephaloid dis.	Oct. 16, much rel'ved.
" "	Female	28	Amp. of breast	Carcinoma	October 19, well.
" 6	Male	32	Operation for	Fistula in ano	November 13, well.
" 9	Female	70	Amp. of breast	Carcinoma	November 5, well.
" "	do	4	Evulsion of nails	Onychia	October 20, well.
" 11	Male	60	Operation for	Reducible hernia	Oct. 30, much rel'ved.
" 14	do	19	Amp. of finger	Caries	October 28, well.
" 16	Female	19	Operation for	Necrosis of tibia	January 14, well.
" "	do	20	Laying open	Sinus in breast	
" "	Male	42	Removal of	Fatty tumour	December 3, well.
" "	do	48	Amp. of breast	Carcinoma	November 8, well.
" 22	do	7	Division of	Cicatrix in mouth	November 9, well.
" 23	do	24	Reduction of	Dislocated ulna	November 5, well.
	(out patient)				
" "	Female	3¼ m.	Ligature of	Cutaneous nævus	Oct. 23, much rel'ved.
" 26	Male	72	Application caustic	Malignant ulcer	Dec. 19, not relieved.
" "	do	33	do do	Varicose veins	Nov. 19, relieved.
" 27	do	38	Removal of	Cancer of lip	Nov. 5, much rel'ved.
" "	Female	17	do do	Encephal. tumour	February 2, well.
" 29	Male	45	Incis. of abdomen	Infiltration of urine	November 5, dead.
" 30	Female	22	Amputation of toe	Caries	February 21, well.
	(out patient)				
" "	Male	50	Actual cautery	Dis. of hand	
" "	do	25	Removal of	Deformity of lip	December 6, well.
Nov. 6	do	34	Amputation of thigh	Disease of knee	November 12, dead.
" "	do	12	Operation for	Necrosis of femur	February 12, well.
" "	do	72	Removal of	Cancer of lip	November 22, well.
	(out patient)				
" "	Male	64	Excision of	Tumour on nose	Nov. 20, much rel'd.
" 13	Female	18	Dissecting out	Cicatrix on face	November 26, well.
" "	Male	72	Actual cautery	Malignant ulcer	Vide supra.
" 17	Female	30	Amp. of fingers	Compound fracture	January 31, well.
" 20	Male	48	Ligature of	Hæmorrhoids	December 15, well.
" "	Female	56	Amp. of breast	Carcinoma	January 7, dead.
Dec. 4	Male	72	Actual cautery	Malignant ulcer	Vide supra.
" "	do	46	Plast. operat. after	Slough. of scrotum	February 17, well.
" "	do	50	Operation on	Tumour in neck	Jan. 22, much rel'ved.
" "	Female	35	Amp. of breast	Carcinoma	December 25, well.

Date.	Sex.	Age.	Operation.	Disease.	Discharged.
1847. Dec. 11	Male (out patient)	14	Operation for	Necrosis of tibia	
" "	Male	50	Actual cautery	Dis. of hand	Vide supra.
" "	do	4	Operation for	Hare-lip	December 15, well.
" "	do	25	2d amp. of leg after	Sloughing of flap	Vide supra.
" 12	do	3	Operation for	Reducible hernia	Dec. 30, much rel'd.
" 18	do	27	Removal of	Encephal. testicle	January 15, dead.
" "	do	73	do do	Cancer of lip	December 29, well.
" 24	Female	29	do do	Tumour in labium	January 13, well.
" 29	Male	50	Actual cautery	Tumour in neck	Vide supra.
1848. Jan. 1	do	39	Operation for	Fistula in ano	January 21, well.
" "	*Female	16	Division of	Contracted tendon	February 2, well.
" 8	*Male	27	Removal of	Abdominal tumour	January 8, dead.
" 10	*do	23	Amputation of thigh	Gangrene	
" "	*Female	32	Reduction of	Dislocated humerus	January 19, well.
" 22	*Male	9	Operation for	Hare-lip	January 31, well.
" 23	*do	51	Reduction of	Strangulated hernia	January 24, well.
" "	Female	20	Insertion of seton	Sinus in breast	
" 29	*Male	54	Operation for	Cancer of lip	February 5, well.
Feb. 5	*do	22	Removal of	Preputial warts	March 2, well.
" 12	*do	29	Evulsion of	Inverted toe-nail	Mar. 25, much rel'd.
" "	*do	48	Removal of	Tumour in neck	March 1, well.
" 23	*Female	6	do do	Pin in throat	March 1, well.
" 26	*Male	30	do do	Scrofulous testicle	March 13, well.
Mar. 4	*do	31	Operation for	Fistula in ano	March 16, well.
" 11	do	18	Lithotrity		
" "	do	22	Amputation of thigh	Dis. of knee	
" 12	do	30	Amp. of fingers	Injury by mach'ry.	
" 13	Female	6	Amputation of leg	R.R. accident	
" 22	Male	33	Reduction of	Dislocated hip	
" 25	Female	12	Operation for	Hare-lip	
" 31	Male	20	Amputation of thigh	R.R. accident	

RESULTS.

Well	95
Much relieved	17
Relieved	5
Not relieved	7
Dead	11
Uncertain	2
Still under treatment	17
	154

These operations include—

Amputations of thigh 9; of which 3 were cured, 3 died, and 3 remain under treatment
" " leg 11; " 8 " 2 " 1 remains " "
" " arm 4; " 2 " 1 " 1 was relieved.
" " breast 12.

C.—3.

List of cases in which operations have been performed, while under the influence of ether and chloroform, in the First Surgical Division of the New York Hospital. Furnished by JOHN WATSON, M. D.

Date.	Sex.	Age.	Disease and operation.	Agent.	Result.
1847. Jan.	Female	11	Ectropion	Nitrous oxide gas	Pain diminished, patient excited and uncontrollable.
Feb. 13	Male	27	Amputation of thigh for chronic sinovitis	Ether	Partial insensibility, with excitement; result not stated.
" "	Male coloured	27	Caries of the knee joint, tubercles of the lungs; amputation	do	Produced excitement; death in 3 or 4 days from disease of lungs.
March	Male	26	Dislocation of femur into ischiatic notch; attempt at reduction	do	Complete insensibility—operation unsuccessful; no injury from ether.
Apr. 17	do	34	Severe gun-shot wound, compound fracture of arm and forearm; amputation at shoulder-joint	do	Not perfectly insensible, had confused unconsciousness. Died of tetanus on the 12th day after the operation.
May 11	Female	40	Scirrhous breast; removal	do	Failed in inducing insensibility; recovered.
July 24	Male	28	Amputation of leg, for compound luxation of tibia	do	Entire unconsciousness; recovery.
Oct. 25	do	25	Amputation of leg, for chronic disease of ankle-joint	do	Complete insensibility, slight convulsions, roseolous eruption of neck, which soon disappeared.
" 29	do	19	Dislocation of head of thigh bone, in the thyroid foramen; reduction	do	Complete insensibility and relaxation of voluntary muscles; reduction easily accomplished.
" 25	do	12	Laceration of foot and amputation	do	Complete insensibility; recovery.
Nov. 11	Female	19	Malignant tumour; extirpation	do	do do
" 9	do	55	Carcinoma of Breast; extirpation	do	do do
" 30	do	30	Congenital union of middle and ring fingers; division	do	do do
" 11	Male	35	Scirrhous testicle; extirpation		do do
1848. Feb. 18	Female	50	Scirrhous mamma; extirpation	Chloroform	do do
" 26	do	10	Autoplastic operation for cicatrix following burn	do	do do
" 15	do	20	Amputation of little finger	do	do do
Apr. 1	Male	19	Injury of hand; immediate amputation	Ether	Totally unconscious; recovery.
" 27	Female	16	Necrosis of the whole shaft of the tibia; extraction of dead bone	do	Complete insensibility during a protracted operation; doing well.

Total—19 cases.

In 15 Sulphuric ether was used.

In 3 Chloroform.

In 1 Nitrous oxide gas.

Operations under the use of chloroform and ether, in the Second Division of the New York Hospital.

Date.	Sex.	Age.	Disease and operation.	Agent.	Result.
1847. July 7	Male	13	Gun-shot wound; partial amputation of the hand	Ether	Anæsthesia perfect, no pain: all cases prior to this had been imperfectly etherized; recovery.
" 24	do	38	Removal of tumour involving ulnar nerve	do	Complete insensibility to pain.
" 24	do	31	Removal of hemorrhoid	do	Complete insensibility; recovery.
" 17	a boy		Fracture of lower jaw; reduction	do	No pain.
Oct. 26	Male	27	Stricture; operation	do	No pain or ill effects from ether. Death Nov. 3.
No date noted	do	66	Compound fracture; amputation of thigh	do	No pain or ill effects; in hospital.
Nov. 19	do	50	Amputation of leg	do	Was apparently unconscious, but said afterwards that he suffered greatly; cured.
1848. Jan. 2	do	27	Extensive laceration and fracture; amputation of the thigh	do	No pain; recovery.
" 3	do	21	Necrosis; amputation of the finger	Chloroform	do do
" 4	do	19	Opening abscess of thigh	do	No pain; in hospital.
" 24	do	18	Diffuse suppuration and sloughing of arm; amputation	do	No pain, anæsthesia attended with vomiting; cured.
Feb. 8	do	19	Lacerated wound and fracture; amputation of the hand	do	No pain; cured.
" 11	do	30	Compound fracture and luxation of ankle joint; amputation	do	No pain; continues in hospital.
" 15	do	49	Gangrene after first amputation of feet	do	do do
" 19	do	38	Compound fracture of the thigh; amputation: secondary hemorrhage; tying of the external iliac and femoral arteries	do	No pain: in three operations no ill effects from chloroform. Died of secondary hemorrhage.
" 16	do	43	Compound fracture; amputation of ring finger	do	No pain; vomiting; cured.
Mar. 3	do	18	Paronychia; incision	do	No pain; cured.
" 3	do	19	Injury; amputation of thumb	do	No pain; vomiting; cured.

Total—18 cases.

In 11 Chloroform was used.

In 5 Ether.

In 2 Not stated.

Total in both Divisions, 37 cases.

It is added, that numerous cases of minor surgery occurred, in which one or the other of these agents was employed, and of which no record was kept, as most of the patients were not inmates of the hospital, and left immediately after being relieved. Amongst these, besides a number of cases of tooth drawing and opening of abscesses, three cases of dislocation of the humerus were satisfactorily reduced under the influence of chloroform; in one case the bone had been out for three weeks. A dislocation of the same bone of six weeks' duration, was also reduced with like success, under the use of ether, the extension being effected in this instance by means of Jarvis' apparatus.

C.—4.

Report of cases in which ether and chloroform were used in surgical operations at the Clinic of the University of Pennsylvania, in the Session of 1847–48. *Furnished by* H. H. Smith, M. D.

Date.	Disease.	Article used.	Surgeon.
1847. October 20	Fissure of the anus; by caustic	Ether	Dr. Horner.
" 27	Amputation of leg	do	do
" 27	Fungus of eyeball; extirpation	do	Dr. Gibson.
" 27	Fissure of the anus	do	Dr. Horner.
November 10	Necrosis of the tibia	do	Dr. Gibson.
December 1	Scirrhus of mamma; extirpation	do	Dr. H. H. Smith.
" 15	Fistula in perineo	do	Dr. Horner.
" 15	Necrosis of femur	do	do
1848. January	Encysted tumour of scalp; excision	do	Dr. H. H. Smith.
"	Fistula in ano	do	Dr. Horner.
" 26	Fistula in perineo	Chloroform	do
February 9	Stricture of the Urethra	do	do
" 16	do do do	do	do

Total—13 cases.

C.—5.

Operations in which ether or chloroform was used, at the Clinic of the Jefferson Medical College. Furnished by T. D. MUTTER, M. D.

Date.	Sex.	Age.	Operation.	Disease.	Agent.	Result of the agent.	Result of the operation.
1847.							
July 19	Male	19	Resection	Conical stump	Eth.	Part. successful	Cured.
Sept. 15	do	30	Removal of	Fungous testis	do	Successful	do
" 22	Female	25	do do	Wens of scalp	do	do	do
Oct. 13	Male	38	Extirpation	Fungus of eyeball	do	do	do
" 20	do	14	Amp. of thigh	White swelling	do	Part. successful	do
" "	do	30	Removed	Tumour of eye	do	Successful	do
" 23	Female	30	do	Tumour of shoulder	do	Failed	do
" "	do	35	Excised	Scirrhus of mamma	do	Perfec. successful	do
" 27	do	46	Removed	Tumour of scalp	do	Part. successful	do
" "	Male	27	Operation for	Fistula in ano	do	Successful	do
" 30	do	40	Amp. of finger	R.R. accident	do	Part. successful	do
Nov. 3	do	6	Operation for	Deformity. Burn	do	Failed	do
" 7	do	49	Removal of	Tumour of neck	do	Perfec. successful	do
" 10	do	32	Operation for	Fistula in ano	do	Failed	do
" 13	Female	36	Removal of	Tumour of scalp	do	Part. successful	do
" "	Male	17	do do	Tumour of thigh	do	Failed	do
" 24	do	22	Extraction of	Cartilage from the knee-joint	do	do	do
" 27	do	14	Removal of	Inverted toe-nail	do	Perfec. successful	do
Dec. 1	do	25	do do	Tumour of neck	do	Part. successful	do
" "	Female	20	do do	Tumour of jaw	do	Failed	do
" 8	Male	30	Operation for	Fistula in ano	do	Successful	do
" "	Female	20	do do	Ectropium	do	Part. successful	do
" 15	Male	47	Removal of	Lupus tumour	do	Successful	do
" "	do	18	do do	Inverted toe-nail	do	Perfec. successful	do
" "	do	20	do do	Cancroid tumour	do	Successful	do
" 22	do	14	Operation for	Phimosis	do	Part. successful	do
" "	do	31	do do	Fistula in ano	do	Successful	do
" 25	do	34	Resection for	Pseudarthrosis of humerus	do	Failed	do
1848.							
Jan. 5	Female	56	Removal of	Scirrhus of mamma	do	Successful	do
" 8	Male	43	Operation for	Fistula in ano	do	do	do
" 12	Female	48	Excision of	Scirrhus of mamma	do	do	do
" 15	Male	27	Removal of	Lupus tumour	do	do	do
" 22	Female	37	Removal of the whole of the super. maxil. and malar bones, with part of the ethm'd. and palatine.	Epulis tumour of the upper jaw	Chl.	Great prostration, accompanied with vomiting and purging	Cured.
Feb. 2	Male	40	Removal of	Scirrhous testicle	do	Successful	Cured.
" 5	Female	66	do do	Fib. tumour of breast	do	do	do
" "	do	25	do do	Tumour of shoulder	do	Part. successful	do
" 9	Male	56	do do	Lupus of eye	Eth.	Successful	do
" "	do	25	Excision	Tumour of zygoma	do	do	do
" 12	do	35	Operation for	Hemorrhoids	Chl	Part. successful	do
" "	Female	50	Removal of	Tumour of shoulder	do	Successful	do
" "	Male	37	Operation for	Ptosis palpeb.	do	Part. successful	do
" 16	do	19	Amp. of the leg	Caries of the ankle	do	Successful	Died of tetanus.
" 19	Female	24	Removal of	Tumour of head	do	Part. successful	Cured.
" 23	Male	32	do do	Tumour of face	do	Successful	do
" 26	Female	58	do do	Wens from the scalp	do	Part. successful	do

Whole number of cases—45.

Ether used in cases . . .	32
Chloroform in cases . . .	13
	45

C.—6.

Cincinnati, *April 24th*, 1848.

My Dear Sir:—

In reply to your communication, I may say that I have not time, before the meeting of your Association, to furnish you with a detailed account of the use of *ether* and *chloroform* in our hospital; but will briefly give my opinion, formed from my own observation in hospital and private practice.

It was not without hesitation that I commenced the use of ether, believing that an agent which can so speedily suspend the intercourse between the brain and sentient nerves, must be liable to do mischief. After having tried it, however, in several cases with rather favourable results, I was induced to try it still further, and ultimately employed it in most cases of severe operations.

In two cases of lithotomy upon adults, the ether did not place the patients fully under its influence, and I think both of them would have done quite as well or better without it. The sensibility was, perhaps, a little diminished at the commencement of the operation, but not through it; and, although I am not confident that a single unpleasant symptom followed, which might fairly be attributed to the ether; yet in one case a pustular eruption, preceded by headache appeared on the third day, upon the face and scalp, and subsided in three or four days, without any unfavourable sequel, during convalescence. As the eruption was unlike anything the patient had had before, it was problematical whether it was not, in some degree, due to the ether.

In two amputations of the thigh the patients had no consciousness whatever of pain in any part of the operation, nor indeed of anything passing around them. The blood, which flowed from the large arteries of the stump, was of a dark colour, nearly that of venous blood. Both were young men, enjoying a fair state of health. One operation was undertaken to improve a bad stump from an amputation performed in Mexico; the other, to remove a stiff knee and badly flexed leg. The first suffered terrible pain for the first twenty-

four hours after the operation, notwithstanding the pretty free use of opium. The second was comfortable for half an hour, and then an indomitable pain came on, which lasted thirty-six hours; during which period the patient scarcely slept a moment, but uttered almost incessant cries, and tossed himself to and fro, with a pulse a great part of the time upwards of 150 in the minute. These symptoms at length gradually subsided, and the poor fellow, like the other, finally recovered. If these uncommon symptoms were not attributable to the ether, I should not know how to explain them. Other amputations, however, one of the arm and several of the fingers, were not followed by similar sufferings.

In a case of dislocated hip, in a stout Irishman, after bleeding, the warm bath, with antimony, and the tension of the pullies for about an hour, the inhalation of ether put the man asleep in about three minutes, and the hip came in place immediately. In the case of an athletic German, with a displaced shoulder of four days' standing, the ether and the pullies were tried without any other means, and in about half an hour the reduction was effected. This man breathed a great deal of ether, but could not be put asleep by it; he was conscious and able to converse all the while, and although the tension was very great, he experienced no pain during the whole operation.

The chloroform I have used in *twenty-two* operations. In all the cases the patient either felt very slight pain, or none at all. In a small proportion of the cases, consciousness remained through the operation. Every patient, I think, expressed entire satisfaction with its effects. I have employed it in amputations of the upper and lower large limbs, as well as the fingers and toes; in the application of the actual cautery in vesico-vaginal fistula—in operations for phymosis and paraphymosis—for urinary and anal fistulæ—excision of tumours, in aplastic operations upon the face and neck, and in one case of lithotomy. In the case of vesico-vaginal fistula, the actual cautery was repeatedly applied with the same results, viz. full consciousness, but *no* pain. The plastic operation for bad deformity, was necessarily prolonged; but there was next to no pain, though consciousness existed a considerable part of the time. In an amputation of the thigh, the patient, a young man, slept through the operation, and, by estimation for eight or ten minutes after with a good pulse and natural respiration. On the application of volatile alkali to his nose, he awoke, and was perfectly comfortable through the day, and slept well the following night.

The case of lithotomy was in a boy of twelve years, one of the most obstinate, self-willed patients of his age I have met with; it was difficult to secure him upon the operating table. The stone, weighing 282 grs., was extracted while he was in a quiet sleep; a few minutes afterwards rousing up, he requested me, as he had done before he went to sleep, not to begin to cut before he got to sleep. He was saved all the pain of the operation; was comfortable from that time onward; has had not a single unpleasant symptom, and now, seven days from the operation, is almost well.

I must give the preference to chloroform compared with ether. It is more sure to control the sensibility, exerts its sedative influence sooner, is less liable to agitate the voluntary muscles and craze the patient, and its effects pass away sooner. In not a single instance, among my twenty-two cases, have I witnessed an unpleasant symptom indicative of injury to the patient. In administering the chloroform, I introduce it slowly by allowing the patient to inhale small quantities in succession, till the requisite insensibility arrives. My opinion is that it can be safely administered in all ordinary cases in which the viscera of the head and chest are sound.

In the case of Mrs. Simmons, who died under influence of the chloroform, it is evident that too large a dose was given, considering the time occupied in the inhalation. She went to the breathing of it with her characteristic resolution and energy—and a dozen or fifteen deep inspirations did the work. She was probably dead in five minutes from the time of the first inspiration. Her organs were sound; but the entire fluidity of the blood, as if from a stroke of lightning, and the broken and fragmentary state of its corpuscles as revealed by the microscope, would seem to show that a powerful agent had been at work in it.

Accompanying this, is a pamphlet, containing a full account of the case, with the post-mortem appearances.

Very respectfully yours,

R. D. MUSSEY.

Dr. Isaac Parrish.

D.

REPORT OF THE COMMITTEE ON OBSTETRICS.

The Committee on Obstetrics, whose duty it is "to prepare a report on all the important improvements in the obstetric art, and in the management of diseases peculiar to women and children, effected in America during the past year," beg leave to offer the following

REPORT.

In relation to the management of diseases peculiar to women and children, little that is new and important has been developed in this country during the past year.

In midwifery proper, an agent has been introduced, which, if a tithe of the commendations bestowed upon it by some of its enthusiastic advocates can be relied upon, imperatively demands careful investigation and farther trial. And as the merit, whatever it be, of the discovery and introduction into practice of this potent remedial agent, belongs exclusively and undeniably to this country, there is a double propriety in its examination on the present occasion. Your committee have endeavoured to approach this important and earnestly disputed topic with that freedom from bias and prejudice which should always guide us in our researches after truth. Their sincere and ardent desire has been to arrive at such conclusions and such only, as will stand the test of time and experience, and will subserve the best interests of humanity and science.

They have read with care, and examined with caution, nearly all that has been written on the subject, and some of their number have experimented in their own practice to a considerable extent—and the results to which they have come, they think, are justified by a careful analysis of the experience of others as well as their own. These results, and the reasons on which they are founded, they will briefly state.

They do not think it desirable in the present inquiry, to enter into any extended examination of the modus operandi of the anæsthetic agent in producing its peculiar effects: whether its action is primarily upon the vascular or the nervous system, or in what order the different classes of nerves are brought under its influence. It

is perhaps too early in the history of the remedy, to theorize satisfactorily or explain clearly the mode, in which all its peculiar effects are induced: nor is this knowledge at all important in deciding the *practical questions*, to which our attention will be confined in this report.

In discussing the propriety of the administration of anæsthetic agents in the practice of midwifery, we are met at the very threshold, by the objection that labour is a physiological, a natural process—that it is a law of nature, a part of the primeval curse, that pain should be endured in completing this process, and that, *therefore*, we are precluded from interfering in ordinary cases by any attempts to alleviate the sufferings of parturition. Your committee attach so little importance to this objection—they think it is founded on so narrow a view of the duties of our profession, that they should have passed it by as not meriting consideration or reply if it had not been seriously urged, as they understand by physicians in this country, whose opinions they are bound to respect. But it seems to us that a moment's consideration is sufficient to demonstrate its utter absurdity and futility: for the same line of argument, if carried out to its legitimate results, would preclude the use of ANY artificial assistance whatever, in cases of natural labour. We could not bleed a patient, or give a grain of tartar emetic, or use the extract of belladonna, to promote relaxation. We could not, upon this principle, even prescribe a dose of ergot or of borax, to increase the expulsive power of the uterus. No! our duties, in affording relief to the sufferings and trials of humanity, are not to be bounded by such contracted and unfounded notions as these. Wherever there is pain to be endured or distress to be encountered, there should we be to administer the remedy, if it can be found, and can be administered safely.

We hold it, therefore, to be too plain for argument, that the only questions to be asked are these. 1st. Is etherization efficient in relieving the pains of child-birth? and 2d. Is it safe? These being answered in the affirmative, if they can be, it follows as a matter of course, that there can be no doubt as to the propriety and duty of resorting to its employment.

As to the first question, the efficiency of ether or chloroform in relieving partially or wholly the pains of parturition, there is, we presume, but one opinion, and it therefore need not detain us. The question of the *safety* of so potent an article, is one of much greater difficulty of solution, and being still involved in great uncertainty, in the opinion at least of many honoured members of the profession, your committee approach its discussion with unfeigned diffidence.

Safety, as applied to remedial agents, is a relative term. Very few articles in our materia medica are absolutely safe, if prescribed for all patients and in any quantities; while many of them are safe only when given with the utmost caution, and in the most minute doses. Strychnine, morphine, Prussic acid, aconitine, are familiar examples of this truth. But this extreme minuteness of dose, and the care with which the remedy must be adapted to the case, are not considered as valid objections to the use of these articles, and they are accordingly prescribed daily, by our most cautious and judicious practitioners. If, therefore, the quantity in which chloroform can be given with safety, and at the same time with efficiency can be ascertained, and if we can also point out the peculiarities of condition or constitution, if any, which forbid its employment, we shall then have brought it within the rule which regulates the use of all the more potent articles of the materia medica, with this additional advantage and safeguard, that from its mode of administration there is not as much danger of its being given in over-doses, and it can, of course, never be given by *mistake*, an accident which has so often happened with fatal results with other articles.

Your committee think that these conditions, to a reasonable extent, can already be complied with in respect to the letheon and chloroform, and that there is every reason to believe that farther experience and closer observation will enable us to adopt rules for their use, as precise and as definite as have been laid down with respect to ergot.

The effects of these agents seem in some respects better adapted to the practice of midwifery than to general surgery, for in the latter, generally speaking, unless the anæsthetic effect is fully produced—unless the sleep is profound, there is danger of the patient becoming restless, and his being injured rather than benefited by the inhalation—whereas, in cases of obstetrics, it is by no means essential that the soporific effect should be complete in order to afford great relief. If the practitioner is timid, and apprehensive of doing harm, or is in doubt whether his patient will bear it well, let him give a small quantity, as twenty drops, and he will find that this small dose will have a beneficial effect in benumbing the acuteness of sensation, and in allaying that nervous excitability from which most of our obstetric patients suffer so much. Let him observe the mode in which his patient is affected by this minute quantity, and he can repeat the inhalation, increase it or withdraw it, as his judgment dictates. We repeat, this gradual mode of producing the peculiar results of this agent *may* be resorted to where the practitioner is in doubt, and it may be pronounced, we believe, in all cases to be safe. In most instances, perhaps, where the accoucheur is confident in his own

resources and in the capacity of his patient to bear well the chloroform, it will be better to give it so as to produce a decided effect at once, by using a drachm of the article, and then afterwards keeping up the impression by applying a smaller quantity to the mouth and nostrils at the accession of each pain; we merely mean to say, that whatever may be thought of the safety of the latter mode, there can be no doubt of the safety of the former.

The anæsthetic agents, ether and chloroform, have now been used in perhaps 2000 cases of midwifery, and so far as the committee have been able to learn without a single fatal, and very few, if any, untoward results. If reliance, therefore, is ever to be placed on human testimony, it would seem that enough had been adduced in their favour to render it proper for the profession to give them farther trial, and by careful examination and faithful report of their effects, endeavour gradually and cautiously to establish general principles by which their administration may hereafter be directed. The committee, in a pretty extensive correspondence with physicians in various parts of the country, have found an entire unanimity of opinion among those who HAVE TRIED these agents, as to their favourable effects both in advancing the progress of the labour, and in relieving the sufferings of the patient. (See *Supplement to this Report*, p. 232.)

And here we would beg leave to say, that if medical men, who are desirous of ascertaining the peculiar operation of chloroform, would try it on their own persons, much of the vague apprehension in relation to it, which now pervades the profession, would be at once dispelled, and very few would find their pre-conceived opinions of its precise mode of operation, fully realized. Let them commence with twenty or thirty drops, and gradually increase the quantity at the subsequent trials according to its effects. They will thus learn practically and safely how to use it, and acquire tact and confidence in administering it to others.

The committee think it probable or certain, that the following benefits will be found to result from the use of anæsthetic agents in the practice of midwifery.

1st. That the pain attendant upon parturition, which is frequently so agonizing to the delicate organization of woman, and occasionally even fatal from its severity, may be partially or wholly relieved.

2d. That even in very small quantities, they benumb the acuteness of sensibility and thus allay that feeling of fear and apprehension, which is often so distressing and injurious to the parturient female.

3d. That this tranquillizing impression may be kept up for hours

with entire safety, and will be found of the greatest benefit in those tedious and harassing labours, where the condition of the parts is such as to admit of no other active interference; and our patients may thus be enabled to pass successfully the trying ordeal, when without this relief, they would succumb under their long continued suffering.

4th. That relaxation of the soft parts and of the os tincæ, and increased secretion of mucus follow their use, and that these circumstances are in themselves of much importance in advancing the labour.

5th. It is the opinion of many accoucheurs, and of some of the committee, that they increase the expulsive efforts of the uterus and decidedly aid in the expulsion of the placenta, thus manifesting the qualities of the ergot, in addition to their other peculiar properties. Should farther experience demonstrate the truth of this proposition, it will be a matter of considerable moment, as these remedies, particularly chloroform, can be administered much more readily than ergot, and will produce their effects much more speedily.

Cases in which it is desirable to resort to the use of anæsthetic agents.

In the majority, perhaps a very large majority of cases of natural labour, where everything is advancing with regularity and reasonable rapidity, to a favourable termination, and where the individual is not undergoing a great amount of suffering, the committee would recommend that etherization be not employed. With a great many females after the first labour, the sufferings of childbirth are not very severe, and being also of short duration, it is obviously unnecessary to interfere by any artificial means—and if chloroform or ether be used at all on such occasions, they should be confined to the last stage, the exit of the child's head over the perineum.

Etherization would seem to be peculiarly adapted to those tedious cases of labour, where the patient's sufferings, on account of their severity and great duration, become almost intolerable; where there is great nervous irritability, and where there may be great ultimate danger of exhaustion and even death, from the long continued irritation. In these and similar cases, it is believed that chloroform may be administered in pretty full or very minute doses, at the option of the practitioner, with very great relief and entire safety to the patient. Many such cases have occurred in the hands of members of the committee and other accoucheurs, where six or eight (and even more) drachms of chloroform have been given and etherization kept up for several hours, with no other than beneficial results in every respect. The parturient pains have not been diminished,

either in force or frequency; relaxation has been promoted; pain and suffering lessened or entirely annulled; the placenta readily thrown off, and all the circumstances following the birth of the most favourable character.

It has been objected, and with some reason, that etherization should not be resorted to in instrumental delivery, because, it is urged, the sense of feeling on the part of the woman is an important guide to the operator in the application and use of his instruments; that as he cannot, like the general surgeon, *see* how and where he is operating, there would be great danger of his doing irreparable mischief, unless guided and restrained by the cries of his patient, when pain was unnecessarily inflicted. We are of opinion, that where the forceps or other instruments are intended to be used, etherization should be employed only to a partial extent, or with the utmost caution, unless (which is the better way) the instruments be adjusted *before* the ether be inhaled at all. This latter precaution is generally practicable, and as it is the *use*, not the *adjustment* of the forceps, which causes pain, it will generally accomplish all we desire. Many cases, however, are on record where instruments have been used during a profound sleep and yet without injury, and it is probable that a skilful and cautious accoucheur could generally effect his purpose with entire safety. In performing the operation of turning, etherization is of doubtful benefit. Further observations are necessary to enable us to decide whether the freedom from pain be not more than counterbalanced by the increased tonic contraction of the uterus, supposing this (a point perhaps not definitely settled) to be one of the ordinary effects of chloroform.

Directions for its Use.—1. The recumbent position is decidedly the most favourable for the inhalation of chloroform, and in obstetrical practice it should be administered in no other.

2. No inhaling apparatus should be employed. A common pocket handkerchief folded in the form of a compress, or a sponge, applied so as to cover both the nostrils and mouth, is the best vehicle. With these there is no danger of the exclusion of atmospheric air, an accident to which we may be exposed in a greater or less degree with ordinary inhalers, and they are at the same time much less formidable in appearance, and much more readily applied.

3. Upon the handkerchief, or sponge, may be poured a drachm of chloroform, if the full anæsthetic effect be desired, or one-half or one-third of this quantity, if a less decided result only is sought for: the effect, however, to be the guide rather than the quantity used, as very different quantities are required in different cases.

4. The inhalation should never be continued after the full anæsthetic effect is produced, which can generally be recognized at once by the stertorous or sonorous sleep. Nor should it ever be given after the pulse begins to fail in frequency and force. It is advisable that the pulse should never be allowed to fall below 60 or 65 per minute; when it reaches this point, the sponge should be removed and atmospheric air alone be inhaled until the pulse recovers its tone. It is also to be borne in mind, that the depressing agency of chloroform continues to *increase* for several seconds *after* it is *withdrawn*, differing, in this respect, from ether, which does not appear to be cumulative in its operation, for the patient never becomes more depressed than she is at the moment of ceasing the inhalation.

5. In cases of labour where we wish our patient to derive the full benefit of this agent, the ether or chloroform should be reapplied at the accession of each pain—a few drops (20 or 30) being placed on the handkerchief each time for this purpose. This may be continued with perfect safety, in all ordinary cases, to the termination of the labour, even if it should last several hours.

6. As a *general* rule, the inhalation should not be commenced until the labour pains are fairly established, and recur at regular intervals, as the chloroform, if given before this period, might interfere with their regular recurrence, and thus protract the labour, while this result need never be apprehended if its use is delayed to the proper time.

The utmost caution should be observed by the practitioner in relation to the purity of the article he employs. Its specific gravity should not be less than 1480, the best quality being as high as 1500. Another test is, that pure chloroform, applied to the skin or mucous membrane, produces simple redness, without cauterization or vesication. When mixed with a small quantity of absolute alcohol, it acquires caustic properties. Whenever, therefore, the chloroform used in medical practice has caused vesication of the lips or nostril, with irritation of the bronchial tubes, it is proof positive that it cannot be pure.

The committee do not think it important to express an opinion as to the comparative value of sulphuric ether and chloroform in obstetric practice. While the latter is more convenient, the former is probably more safe, owing to the fact, perhaps, that it is not *cumulative* in its operation. They are both efficient, and either may be employed at the option of the accoucheur.

HARVEY LINDSLY,
GEORGE C. M. ROBERTS,
JOSHUA RILEY,
C. R. GILMAN.

SUPPLEMENT.

The chairman having received numerous communications from distinguished physicians in various parts of the country, in relation to etherization in midwifery, has thought it advisable to present extracts from some of these, in the form of a supplement to the report. A few other matters will also be added.

Prof. Channing, of Boston, in a letter dated December 16th, 1847, says:—"I have, during the past year, employed ether in obstetrical practice to some extent, my observations now extending to about forty cases. I have used it in natural and other classes of labour, and with uniformly good results.

Dr. E. J. Marsh, of Patterson, N. J., reports one case of midwifery, in which ether was used, and two in which he employed chloroform, with relief of pain and increased relaxation.

Dr. J. C. Bennett of Plymouth, Mass., says:—"I have used chloroform in nearly two hundred cases without the least evil result. In obstetric practice, I find that chloroform produces a more rapid dilatation of the os tincæ, and greatly increases the expulsive uterine efforts, while the patient enjoys tranquil sleep, and is perfectly free from all suffering. The placenta is likewise thrown off at an earlier period, and the hemorrhage is less than where chloroform is not employed."

Dr. M. B. Wright, Professor of Midwifery in the Medical College of Ohio, reports a considerable number of cases of obstetrics treated by the letheon and chloroform. He says "the patients gave no evidence of pain, and the cases terminated without an unpleasant symptom, accompanying or following the labour. In five of the cases I have given chloroform to arrest *constant* pain, and to establish *alternate* contractions—to promote a more speedy dilatation of the os tincæ, and a greater relaxation of the vagina and perineum."

"A given amount of uterine contraction will effect an expulsion of the fœtus, under the use of either letheon or chloroform, much more speedily than where nature is permitted to proceed unassisted."

In the administration of the remedies, I have had less regard to the quantity than to the effect. In every case we should be governed by the rule which would guide us in the use of every narcotic, viz.: to make a gradual rather than a sudden impression."

"Cautiously employed, the agents under consideration will prove of more value to the human family than any medicinal agent yet discovered."

Professor Moultrie, of Charleston, S. C., reports the use of chloroform in one instance. "This was in a case of twins, the second child requiring manual assistance, in a patient who resisted with brute ignorance every effort to afford her aid, even the administration of chloroform. The result has been quite happy. The presentation was the forehead and the foot. During the period of insensibility, and after repeated failures before, the foot was restored and the head assuming the rightful position, the labour eventuated naturally."

Professor Gross, of the University of Louisville, remarks:—"I have employed chloroform in my surgical practice, almost ever since it was first introduced to the notice of the American profession, without having witnessed, in any instance, any other than the most beneficial results. My own experience induces me to give it a decided preference over ether. In the first place, it is much more easily inhaled; secondly, it acts much more promptly, as well as in a much smaller quantity; thirdly, it more effectually prevents pain; and fourthly, it is less apt to be followed by nausea, vomiting and headache. I have, among other cases, used it in amputating the leg, in removing the arm at the shoulder-joint, in excising a large tumour of the thigh, involving the femoral artery, in extirpating an encysted testicle, and in the operation for hare-lip. My colleague, Professor Miller, informs me that he has exhibited this agent with excellent effects in several of his obstetric cases; and very recently he administered it with similar results, in my presence, to two females, from one of whom he removed an enormous ovary, and from the other an inverted uterus."

Professor G. adds:—"as chloroform is an article of great power, I feel satisfied it ought always be used with the utmost caution, and that, in order to prevent mischief, the system should be brought under its influence, not rapidly and fully at once, as some have recommended, but slowly and by degrees. Employed in this manner, there is not, in my opinion, the slightest probability of its producing any bad effects."

Professor Mussey of Cincinnati, says, he has used chloroform in a considerable number of surgical operations without its being followed by a single unpleasant symptom.

Dr. James Stewart of New York, states that he has information of chloroform having been used in twenty-two cases of midwifery in that city, with favourable results.

The use of Ice to promote Uterine Contractions.—Dr. Louis Mackall, a highly respectable physician of Maryland, in a communication to the committee, states, that for several years past he has been in the habit of employing pounded ice in cases of suspended or protracted labour. That when this had been swallowed freely, the pains had immediately returned, the uterus had contracted strongly and the labour been speedily completed.

He also communicated letters from Dr. B. Mackall, Dr. Skinner, and Dr. M'Cubbin of Maryland, strongly corroborating his statement of the efficiency of ice in promoting the contractions of the uterus.

Dr. B. Mackall remarks, that his experience in the use of ice for this purpose extends through a period of ten or twelve years. "During that time" he says, "I have had frequent opportunities of observing its effects, and I can safely declare, that in no single instance have I been disappointed in its action. I have used it under a variety of circumstances and always with the most satisfactory result. In cases where labour pains had been suspended for twelve or twenty-four hours, they have been renewed promptly and efficiently. In cases of inevitable abortion, where the uterine contractions are feeble and inefficient, and where hemorrhage is considerable, I regard it as invaluable. In retention of the placenta from imperfect contraction of the uterus, and in cases of alarming hemorrhage after delivery and expulsion of the after-birth, it is equally applicable. In short, wherever the firm contraction of the uterus is desirable, that object will most certainly be attained by the administration of ice." "In no instance have I witnessed the slightest ill effect from its administration."

Dr. Blackburn of Barnesville, states, that he has used a strong decoction of the roots of the cotton plant, in two cases of labour with successful issue, to promote uterine contractions where ergot had failed.

E.

REPORT OF THE COMMITTEE ON EDUCATION.

The Committee on Medical Education respectfully report:—

That they have undertaken the discharge of the duties devolved upon them, with a profound conviction of their importance and of the delicate interests to which they are allied.

The American Medical Association is just commencing a career of high promise. It is cheered onward by kindred voices from all quarters of our extended Republic. The committee have felt it to be incumbent on them, to propose no measures which might receive a cold or doubtful assent by their professional brethren, or mingle a note of discord with the harmony of the profession here and everywhere. If the Association would attain the great ends for which it was formed, if it would gain the object which every worthy and right-minded physician must have in view, if it would sustain the dignity of our calling and obey the better impulses of our nature, it must maintain peace and good will in the great body of the medical profession. This line of conduct is not merely compatible with improvements and reforms, but is essential to the accomplishment of them. Looking to a future, more or less distant, for the attainment of all the objects to be desired in the matter of medical education, the committee have deemed it right and expedient to exercise great reserve and caution in the recommendation of measures for the sanction of this body.

The constitution of the Association thus defines the duties of this committee. "The Committee on Medical Education shall, 1st, prepare an annual report on the general condition of medical education in the United States, in comparison with the state of medical education in other enlightened nations; noticing as occasion may call for, 2d, the courses of instruction, the practical requirements for graduation, the modes of examination for conferring degrees, and 3d, the reputed number of pupils and of graduates at the several medical

institutions in the United States during the year. Noticing also 4th, the requirements of the United States army and Navy Boards of Medical Examiners; 5th, the legal requirements exacted of medical practitioners in our several states, and 6th, all such measures, prospective or established, in reference to medical education and the reputable standing of the profession, as may be deemed worthy of special consideration."

1. The committee are not prepared to give a detailed exposition of the state of medical education in foreign countries, nor do they think that such an account is now necessary. It is sufficient for the present purposes of the Association, to know, that in all the most enlightened nations of Europe, the standard of qualifications essential to the attainment of the doctorate of medicine, is far higher than it is in the United States. The preliminary education is broader and more thorough; the term of medical study is from one to two years longer, the curriculum includes a greater diversity of subjects, the series of lectures are more prolonged and the examinations more elaborate, searching, and practical. But beyond all this, there is one feature in the medical schools of Europe which stands in marked contrast with many of those in the United States. At Paris, at Strasbourg, at Montpelier, at Vienna, at St. Petersburgh, at Berlin, at Edinburgh, at Dublin, at London, a great hospital forms a part of the scene, and furnishes an essential constituent of the material of instruction. In the United States alone, is continued an obsolete system of teaching demonstrative science by description, of teaching the manipulations of surgery, and the art of recognizing and healing diseases without exhibiting the practice of either, and of explaining the movements and changes of living bodies to those who are ignorant of the laws which govern inert matter. Thus far, the foreign schools may, with propriety, be adopted as models in this country, but farther than this, it is questionable whether we could imitate them in their general details. They differ in these respects in different countries, and in each country they are modified from time to time. Besides this, the European governments, their institutions, and the genius of the people are different from those of the United States. Political ethics, and the control and direction of instruction are there vested in the same hands. This hitherto has obtained especially in France, whose medical schools have been adduced as patterns for our imitation. Those institutions are under the direction of the National Government, and the emolument of their professors

is a fixed salary paid from the treasury of the state. The schools are few in proportion to the population, particularly when compared with those of this country; one central power controls their number, ordains the method of their organization, and in a general manner governs their proceedings. How different is the condition of things here, where the establishment and direction of similar institutions are left to private enterprise, the central government taking no cognizance of them, and the local legislatures rarely extending their assistance farther than the grant of charters.

2. So far as the committee have learned, the courses of instruction, the requirements for graduation, and the mode of examination of candidates in our medical schools, generally remain in the same condition as at the time of the last meeting of the Association. It is with pleasure, however, that they can mention several exceptions. The University of Pennsylvania, and the College of Physicians and Surgeons of New York, adopted the recommendations of this body at its last meeting, and extended their term of instruction, the former to five and a-half and the latter to five months. The College of Physicians and Surgeons of New York, also established an additional professorship. Your committee are happy to add, that this prompt and cheerful acquiescence in the views of the Association by two of the most venerable and respected institutions of the United States, has been approved by public opinion and sustained by public patronage. The Franklin Medical College of Philadelphia, incorporated in 1846, commenced its first course of lectures with a session of four months and three weeks, for which period the course of the last session, 1847–8, was also prolonged—the month of October previous to the commencement of the session having been occupied with preliminary lectures.

At several other schools, series of lectures preliminary to the stated course have been delivered, thus measurably fulfilling the recommendations of the Association upon this subject.

Besides these already accomplished improvements, several others have been prospectively made. The faculty of the Buffalo Medical College have given notice, that their term of lectures for the ensuing session will be five months, aside from a preliminary month devoted to dissection.

The faculty of the Medical Department of the University, at Louisville, have determined to lengthen their term at the ensuing session, and it is possible that some others may have done the same, but if so, the fact has not come to the knowledge of your committee.

In the University of Harvard, candidates who have not received a collegiate education, are subjected to an examination on Natural Philosophy and the Latin language; he is required to translate *ad aperturam libri* Cicero's orations. The same practice obtains in the Medical Societies of Massachusetts in their examinations for license to practice.

The faculty of the Medical College of Georgia has already announced its intention to lengthen its sessions, and to institute other reform as soon as that course is generally adopted by other institutions, and has recently passed a resolution to follow such recommendations for the improvement of medical education as this Association may think proper to suggest.

The Faculty of the Medical Department of Geneva College, and that of Rush Medical College, have decided upon extending their terms, whenever the institutions generally will do the same.*

3. Your committee are not yet in possession of the requisite data for giving "the reputed number of pupils and of graduates at the medical institutions of the country during the past year."

In the session of 1846–7, the number of pupils at twenty-five schools was 4192; and the number of graduates at twenty-four schools, was 1188.

4. The requirements of the United States Army and Navy Boards of Medical Examiners were so fully presented to the Association last year, that it is unnecessary to report them at the present time.

5. In 1842 a Committee of the Munroe Medical Society, New York, was appointed, for the purpose of reporting upon the legislative enactments, in relation to medicine in the several States of the Union. They collected information from twenty-two of the twenty-six then existing States. Of these, the legislatures of eight, viz.: New Hampshire, Rhode Island, Pennsylvania, Virginia, North Carolina, Kentucky, Tennessee and Missouri, had never passed any laws upon the subject.

In ten, viz.: Maine, Vermont, Massachusetts, Connecticut, Maryland, South Carolina, Alabama, Mississippi, Indiana and Ohio, all previously existing laws had been abolished.

* While this Report is in press, the Medical Colleges of Georgia and of South Carolina respectively announce the extension of their terms to five months.

In the remaining four, New York, New Jersey, Georgia, and Louisiana, prohibitory laws were still in force.

No intelligence was received from Delaware, Michigan, Illinois and Arkansas.

Since the report was made, all legal enactments relative to the practice of medicine in the State of New York, have been repealed.

This committee was instructed to report upon the subject of "the two reports submitted," at the last meeting of the Association, "by the committee on the separation of teaching and licensing."

The preamble and resolution, at the conclusion of the report, signed by a majority of that committee, are as follows:—

"*Whereas*, A general sentiment prevails in the medical profession, that the active competition existing amongst the medical colleges of the Union, has a tendency to lower the standard of professional requirement, and to depreciate the value of the degree.

"*And Whereas*, The facility with which charters for medical corporations are obtained from our State governments, exposes the medical profession to the continuance and increase of these abuses, inasmuch as these corporations possess alike the power of granting the license to practise—

"*Therefore Resolved*, That, in the opinion of this Convention, some additional checks to the exercise of this right should be established by the great body of the medical profession."

The existence of abuses, and the necessity of a remedy for them are here recognized, but no specific mode of action is proposed, and, consequently, no comment appears to be called for by this committee.

The resolutions appended to the report, signed by a minority of that committee, were as follows:—

"*Resolved*, That inasmuch as an opinion prevails to a considerable extent in the profession, that certain abuses have crept into some of the medical colleges, namely, that they confer degrees upon persons who have not fully complied with their own requirements, or on those who do not possess the requisite amount of knowledge to entitle them to such distinction, it is deemed expedient by this Convention, in order to satisfy the just wishes of the profession, and to remove just grounds of complaint, that such colleges as do not already possess mixed boards of examiners, should consent to have associated with them in the examination for degrees some members

of the profession not engaged in teaching, or otherwise interested in such institutions.

"*Resolved*, That the number of boards for granting licenses in the several States, should be as limited as would comport with the convenience of examiners and candidates in each State.

"*Resolved*, That it would conduce to the elevation and usefulness of the profession, that the regular and respectable members of it should form themselves into county or district societies, and that those societies should be represented in a State Medical Society, in such ratio to the whole number of each society as may be agreed upon as most proper—that each State society should appoint such a number of boards for examining and licensing candidates as may be thought advisable, according to the size and population of the State.

"*Resolved*, That when a college or colleges of medicine exist in a State, it be recommended to such colleges to invite a delegation from the State Society to be present at the time of the examinations for the admission of candidates for degrees, not for the purpose of embarrassing the faculty or candidates, but to satisfy the wishes of some portions of the profession, and relieve the institutions themselves from the imputations to which some of them seem to be at the present time exposed."

Although your committee cordially approve of most of the specific recommendations embodied in these resolutions, yet it appears to them that, as a whole, the method prescribed for removing the alleged deficiencies or abuses is too complex to be available, in the present condition of the profession. It involves the necessity of improvements so general and extensive as, it is feared, to render it for a long time impracticable.

In regard to the general object towards which the foregoing resolutions were directed, the views of this committee may be very briefly expressed.

The medical colleges are invested with the power of conferring degrees, and it cannot be expected that they will, at present, relinquish it, even if that were the general wish of the profession. It is, however, expected, for causes heretofore fully presented to the Association, that the several medical faculties will make every reasonable sacrifice to the sentiments of their fellows; that such medical faculties as are amenable to these objections will consent to such modification of the present method of examination, as will effectually remove the sources of dissatisfaction, which have hitherto ex-

isted; in short, that they will permit the presence, at their examinations of candidates, of some officially appointed person or persons, who are not interested in their institutions, and that a portion of their examinations shall be conducted in public.

Having thus passed in review the specific subjects assigned to them, your committee would offer some general remarks, sanctioned by the last clause of the article in the plan of organization, which defines their duties.

The truth of the proposition that there are striking deficiencies in our profession is, at this time, so generally conceded as to obviate the necessity of further demonstration. The desire and the capacity for improvement are implied by the organization of this Association, by its proceedings hitherto, and by the universal satisfaction which those proceedings have given to the profession at large. It is evident that for the accomplishment of the great object for which this society was organized, little or no legal, or other extra-professional assistance must be expected. The power lies almost exclusively with ourselves. Our own minds must suggest, our own judgments decide upon, our own energies direct and impel the means whereby that object may be attained.

In whatever aspect the enterprise be viewed, the mind is finally arrested by the apparently radical source of all the evils and deficiencies in the profession, viz.: the imperfect education of a large part of its members. The serious consideration of all physicians should be called to this evil, and they should be urged, by all their wishes and hopes for a better state of things, by all their aspirations for the progress and perfection of the science, and by a motive still more exalted, their conscientious interest for the welfare of their patients, to direct their energies towards its removal.

It is alleged by some, that an imperfect medical education is a necessary result of the present condition of the population of the country. The frontier and thinly settled territories cannot, it is said, afford support to a well educated corps of medical men.

It would be unjust to deny that this argument is entirely devoid of weight, yet, especially in a prospective view, it cannot be conceded that it is of sufficient importance to diminish our efforts towards advancement. Our broadly extended country, through the agency of steamboats, railroads, and telegraphic intercourse, is virtually rendered more compact; large portions of it are becoming more populous; its sources of wealth are in rapid course of development, and

intelligence is more widely and generally diffused. Competent and skillful physicians must, ere long, be properly appreciated in nearly all parts of the Union, and if they be not too numerous, their services will be adequately compensated.

Again, it has been objected that the necessity of an increased number of physicians is such, that the schools must supply them, not, it is admitted by all, *well* educated, but instructed so far as the circumstances of the case will allow. So far from coinciding with this opinion, your committee are convinced that the present rate at which graduates are furnished by our medical colleges, exceeds the wants of the country. Have the members of this Association now present, coming as they do, from every quarter of the land, passed through sections devoid of doctors? Have they not, on the contrary, traversed many a town in which one-half of the number of physicians, if well educated, would be adequate to the performance of all the professional duties in a better manner than they are at present fulfilled?

If the number of physicians were too small to meet the necessities of the country, it is reasonable to presume that the medical faculties of our schools would constantly receive applications from persons wishing for a medical man to settle among them. But what is the fact! are not such applications exceedingly rare? On the contrary, is it not almost universally true, that the principal source of anxiety harassing the minds of young physicians, is the difficulty of obtaining situations where their services are needed? Do they not, in many instances, travel hundreds, perhaps thousands of miles, in search of a place in which there is a fair prospect of supporting themselves? Go where they will, do they not, as a general rule, find every position pre-occupied? Are not all vacancies immediately supplied, and do not two or three physicians frequently settle in a village, the population of which will hardly furnish a sufficiently remunerative occupation for one? Are there not numerous instances in which the difficulty of finding a suitable residence induces the young practitioner to abandon his profession, and seek in other and less dignified pursuits, that prosperity which, from its crowded condition he is no longer permitted to expect from his legitimate vocation?

The population of France is about 35 millions, and, during the past year, according to the London Medical Gazette, the number of students in her three schools which are vested with authority to confer degrees, was 1050. Now, on the supposition that one-half

of these received a diploma at the end of the session, the number of graduates would be 525, or one to every 66,666 of the general population.

It is estimated that there are 20 millions of inhabitants in the United States. The number of graduates in 1847, at twenty-four of our medical schools, was 1188, or one to every 16,835 of the population. But these returns are only from about two-thirds of the schools. The annual number of medical graduates in the country cannot be far from 1500, or one to every 13,333 of the population. On the supposition that these calculations approximate to accuracy, it will be perceived that the proportional supply of graduates in medicine in the United States, is five times as great as in France. This, of course, does not include the licentiates and under-graduate practitioners in either country.

From all these considerations, the inference is inevitable, that our present ratio of supply of medical men is greater than is demanded by the exigencies of the people.

Whence follows this result, but from the facility with which the medical degree is obtained? In all stages of his progress, the student meets with too few obstructions in his path.

The fault, therefore, lies primarily with private teachers, inasmuch as the pupil takes his initiative steps with him. Let them commence a reform by exercising greater circumspection in the reception of students into their offices. If they would adopt the recommendations of this Association in regard to preliminary education, and follow them faithfully, or, even much more nearly than they have done heretofore, a great and important progressive movement would be achieved.

The medical colleges follow next in responsibility. Your committee are well aware that some of the brightest ornaments of our profession are among the teachers in these institutions, and they would readily accord to them all due praise as to a body of learned and skillful men, diligent in their important calling, and ardently desirous to advance the prosperity of the profession. It would, however, be claiming too much for them, to suppose that they are so unlike the rest of mankind as not to be insensibly influenced in their views by their own position, or that, in their zeal for teaching, they might teach too many and receive pupils deficient in that important preparatory instruction, both theoretical and practical, which should be derived from their private instructors.

Were the preliminary qualifications requisite to an admission into

private offices and into the medical colleges more enlarged, were the diploma to be purchased only at a mental expenditure corresponding with its value, not only would the standing of the profession be exalted and its usefulness augmented, but the cause of humanity more truly subserved.

In the eager competition which now results from an excessive supply of medical men, your committee believe that much of the prevailing empiricism finds its true origin. If, by legitimate means, occupation is not found, the physician must abandon the profession or seek a livelihood in quackery. In our large cities, the major portion of the most successful charlatans are individuals who, educated at our schools, have failed to acquire employment in the regular way. If professors' emoluments were fixed salaries, the evil would be struck at its root.

There are three parties interested in the great subject which originated this Association. They are the medical schools, the profession, and the public. As, however, the necessities of the public, the wants of humanity, constitute the basis upon which the profession is supported, the mission of the schools and of our fellow members is not faithfully discharged unless those necessities and wants are ministered to in the most effectual manner. The schools are no farther immediately valuable than as they faithfully subserve the interests of the profession. The interests of the profession are only to be considered as legitimate objects of protection, in so far as they conduce to the welfare of the community. If there must be a conflict of interest, no right-minded man can hesitate in deciding which of the three parties should yield. But, in the present case, your committee see no just reason for any such conflict. They are fully convinced that every desirable reform may be effected, without material detriment to either party.

They deem it relevant, however, to assert the right of the profession to decide and to declare, if to them it seems best so to do, whom they should and whom they should not admit into their ranks; whom they should acknowledge as legitimate members of their calling, and whom they should not; and this without giving just cause of offence to any professor, practitioner, or man whomsoever.

It is possible that some members of the Association are looking to this committee for radical changes, intended to elevate the reputation and increase the usefulness of the profession. If such there be, they will find that most of the desirable improvements are embodied in the resolutions appended to the excellent reports submitted to

this body last year; and that years will be required to perfect all which has been there commenced.

Believing that the foundation of all our projected reform is a more complete education of candidates for the doctorate, your committee wish particularly to recall to the attention of this Association, the resolutions submitted by the Committees on Preliminary Education and the Standard of Acquirements for the Degree of M.D., at the Convention in May last, and recommend farther measures, if they shall be thought necessary, calculated to put the provisions of those resolutions into practical operation.

Most especially is it suggested, that the fourth and seventh of the resolutions of the committee last mentioned, the former recommending that the certificate of no irregular practitioner shall be received at the medical schools, and the latter urging the importance of clinical instruction and attendance upon hospital practice, should be again brought to the notice of the medical faculties of the several institutions. (*See Proceedings of the National Med. Convention, &c.*, p. 74.)

Before an association like this, it is unnecessary to adduce any argument to prove that a knowledge of practical medicine can only be attained by the agency of practical instruction. The physician, like the artisan, can never become accomplished if he depends upon books and oral instruction alone. The application of his own powers of observation, dependence upon his own judgment and action, are essential requisites, and the sooner his efforts are directed in this course, the more rapidly will his knowledge increase.

The committee think the private preceptors of pupils in medicine should more generally give this practical direction to their studies, by permitting them, as far as possible, to see the patients under their care, and to witness *post-mortem* examinations.

If private preceptors could be induced to adopt this suggestion, the medical faculties of the schools might and ought to require from each candidate for graduation, instead of the customary thesis, a report of a number of cases of disease drawn up by him from his own observation.

But your committee are of opinion that an adequate course of clinical instruction can only be obtained in hospitals, and that, although the clinics may be advantageously added, they are an inefficient substitute for hospital teaching, for in hospitals only can the progress of disease and the results of medical treatment be observed with full benefit to the student of medicine. The hospitals,

and especially those located in cities where medical schools are established, discharge but a portion of their humane functions when they merely afford refuge and medical treatment to the sick and afflicted. The sufferings of one generation may be made conducive to the happiness and comfort of that which is to succeed it, by imparting to the attendants on subsequent subjects of disease, a knowledge of the means of relief; and the authority which withholds from the teacher and his pupil the opportunity of attaining practical experience in its treatment, is faithless to the trust confided to his care.

1. *Resolved, therefore*, That this Association earnestly and respectfully appeal to the trustees of hospitals to open their wards for the purposes of clinical instruction, satisfied that they will thereby more efficiently aid the cause of humanity, and more perfectly accomplish the benevolent intentions of the founders of the charity.

2. *Resolved*, That this Association considers defective and erroneous, every system of medical instruction which does not rest on the basis of practical demonstration and clinical teaching, and that it is therefore the duty of the medical schools to resort to every honourable means to obtain access for their students to the wards of a well-regulated hospital.

3. *Resolved*, That the practice of appointing physicians and surgeons to the charge of an hospital on political or other grounds than those of professional and moral worth is inconsistent with the welfare of its inmates, and of consequence inhumane and unjust, subversive of the objects of its founders, and incompatible with a conscientious association of the high responsibilities devolved on the appointing power.

4. *Resolved*, That this committee reiterate and strongly recommend to the Association a practical observance of the resolutions appended to the report of the committees on preliminary education, and on the requisites for graduation submitted to the Medical Convention which assembled in Philadelphia in May, 1847.

5. *Resolved*, That the faculties of the medical schools be advised and requested [carefully to examine students after attendance on their first course of lectures], to issue certificates of proficiency to such as merit them, and to regard the possession of such certificate and attendance on another full course of lectures, subsequent thereto, indispensable preliminaries to a final examination for the doctorate.

6. *Resolved*, That this Association recommend to the faculty of

each medical school to conduct the final examination of candidates for the diploma, in presence of some official person or persons properly qualified to recognize the attainments of the candidate, but who has no pecuniary interest in the institution, or in the number of its pupils.

7. *Resolved*, That it be also recommended, that in lieu of the usual inaugural thesis, or in addition thereto, each candidate for the diploma be required to present to the faculty at or before the time of final examination, a report drawn by himself, and from his personal observation of not fewer than five cases of disease, and upon which he shall be duly examined.

The difficulty of obtaining information upon some of the subjects upon which it is required to report, induces your committee to offer also the following:—

8. *Resolved*, That the faculty of each medical school be requested annually, and as early as possible to furnish the chairman of the committee on education, with a statement of the number of pupils and of graduates in their respective schools, together with such other information as may expedite the labours of the committee, and enable it to discharge the duties assigned by the constitution under which it acts.

A. H. STEVENS,
AMOS. TWITCHELL,
B. R. WELLFORD,
A. NAUDAIN,
R. D. ARNOLD,
L. P. BUSH.

Note.—Every individual on the Committee has taken a part in the preparation of their Report, but the Chairman takes occasion to offer his thanks to Dr. Pliny Earle, to whom it chiefly owes its present form.

F.

REPORT OF THE

COMMITTEE ON MEDICAL LITERATURE.

The Committe on Medical Literature was appointed to prepare "an annual report on the general character of the periodical medical publications of the United States, in reference to the more important articles therein presented to the profession, on original American medical publications, on medical compilations and compends by American writers, on American reprints of foreign medical works, and on all such measures as may be deemed advisable for encouraging and maintaining a national literature of our own."

In presenting the first report upon this subject to the Association, the committee thought it desirable to take a summary retrospect of what has been done in the several branches brought under their consideration, before proceeding to examine the more recent labours in the same department. It has seemed to the committee that the duties of those who should succeed them in after years, would be rendered more useful and at the same time less onerous, by this general survey of the whole field which has been traversed. Much of the tediousness of the long array of names which have been unavoidably enumerated, would be avoided in the future annual summaries, and many points would, doubtless, be developed, which the length of this report, if no other reason, has suppressed or crowded into narrow limits. It is proper to state that the materials within the reach of the committee were by no means complete, especially in what relates to periodical literature, and that, with every disposition to do impartial justice, they have not always had the means of obtaining complete series of journals, and have sometimes been reduced to a few disconnected numbers.

PERIODICAL MEDICAL PUBLICATIONS OF THE UNITED STATES.

The plan of the first medical periodical publication which appeared in this country, was conceived by Dr. Elihu H. Smith, of New York. He associated in his enterprise Dr. Edward Miller and Dr. Samuel L. Mitchell, and in August, 1797, the first number of the new journal appeared, under the name of the *New York Medical Repository*. In the hands of different editors it continued to be published for many years, until it reached its twenty-third volume. In its pages are contained most of the writings of Dr. Miller, one of the most original thinkers and observers which this country has produced, whose eulogy has been written at length by the most renowned among the medical theorists of the present century. Here, too, are many of the productions of the originator of the enterprise, who, at the early age of twenty-seven, fell a victim to the disease he had illustrated, leaving a name which might have rewarded a long life of honourable exertion. Although a considerable portion of the *Medical Repository* is occupied by chemical disquisitions which no longer possess anything but historical value, still it will be always consulted with profit for its accounts of the diseases of this country during the period of its publication, especially of yellow fever, of spotted fever, and of typhoid pneumonia. The chemist will remember it as having been honoured by many contributions from Priestley; and the obstetrician will not soon forget that a letter from Dr. Stevens, in its eleventh volume, introduced to the world the wonderful properties of ergot.

In speaking of this, the first of our medical periodicals, the expressions of Dr. Thacher may be adopted, as doing justice to the pioneer journal of the western hemisphere.

"The commencement of this publication undoubtedly forms an era in the literary and medical history of our country. No work of a similar kind had ever appeared in the United States. Its influence in exciting and recording medical inquiries, and in improving medical science, soon became apparent. It led to the establishment of other and similar works in different parts of our own country, as well as of Europe; and may thus, with great truth, be said to have contributed more largely than any other single publication to that taste for medical investigation and improvement, which has been, for a number of years, so conspicuously and rapidly advancing on this side of the Atlantic."

The publication of this journal was followed, in a few years, by that of the *Philadelphia Medical and Physical Journal*, (1804,) and by several other periodicals in that city, and in New York and Baltimore. Among these was the *American Medical and Philosophical Register*, (New York, 1810,) in the fourth volume of which is the famous letter of Dr. Mitchell, of Virginia, to Dr. Franklin, on yellow fever, from which Rush took the hint that led to his practice in that complaint; with other interesting papers on the same subject. The *Eclectic Repository*, (Philadelphia, 1811,) was highly esteemed for the judgment and talent with which it was conducted. Among its original papers are those of Dr. Griffitts, on the method of preserving and using the vaccine crust, on blistering as a remedy for mortification, on the subject of re-infection in yellow fever, the non-occurrence of which he maintains, and on a case of supposed aneurism of the right carotid artery.

The New England Journal of Medicine and Surgery was commenced at Boston in the year 1812, and continued until 1826. It was supported with a good deal of spirit, by some of the best practitioners and writers of the region where it was published. Dr. Warren, the elder, contributed an Essay on Angina Pectoris. Dr. James Jackson, a most valuable paper on the Morbid Effects of Dentition, containing an account of Cholera Infantum, which seems to have furnished a model for some later writers; an article on Croup; another on the occurrence of Fever in certain families; and one upon a painful affection, to which he gave the name of *Arthrodynia à Potu*. Dr. J. C. Warren related some cases of Disease of the Heart and of Sciatica; Dr. Parsons gave a surgical account of the Battle of Lake Erie; Dr. Bigelow published his Prize Essay on Burns; Dr. John Hay related the history of a family affected with the hemorrhagic diathesis; Dr. Haskell reported a case of Ichthyosis cornea, illustrated by a good figure; Dr. Hayward wrote a paper on "Delirium Vigilans;" Drs. Channing, Woodward, Peirson and many others reported important cases. The story of the ship "Ten Brothers," which came to Boston with yellow fever in its hold, is here related. Dr. Russell, of Lincoln, reported a singular case of hydrophobia from the bite of a raccoon; an instance, if correctly reported and interpreted, of a disease said by some never to have occurred in Boston or its vicinity.

In 1820, the *Philadelphia Journal of the Medical and Physical*

Sciences was established, under the care of Dr. Chapman as editor. It was dedicated to the elegant scholar and accomplished physician, Dr. James Maclurg, of Richmond, Virginia, who contributed one of his last literary efforts to its first volume. Many valuable papers are contained in this journal. Among the most prominent are the following:—In Physiology, the experiments of Lawrence and Coates, and those of Milner on Absorption; Dr. Geddings on the Function of the Lymphatics; Dr. Godman on the Propriety of attempting to explain the actions of the Animal Economy by the Assistance of the Physical Sciences; Dr. Mitchell on Corpora Lutea; in Chemistry, Dr. Hare's account of the Deflagrator and Calorimotor; in Surgery, Dr. Gibson's papers on Bony Tumours and on Fractures of the Thigh, and Dr. Mott's successful case of Amputation at the Hip-joint; in Obstetrics, Dr. Dewees on Rupture and on Retroversion of the Uterus and on Uterine Hemorrhage (after abortion); in Practical Medicine, Dr. Chapman on Croup; Drs. S. Jackson and Dickson on Yellow Fever; Drs. Lea, M'Call, Coleman and Haines on Milk Sickness—the first notice, as far as we know, of this singular affection; Dr. Mease on Sick Headache, a remarkable and often cited paper; Dr. Staughton on Mania à potu; Dr. Caldwell on Climate; Dr. Somerville on the Medical Topography of Virginia; Dr. Condie on Cholera Infantum; Dr. Jones on Influenza; Dr. Perrine on large doses of Quinine; and Dr. Stevenson on the use of Charcoal.

The *American Medical Recorder* was established in 1818, and continued until 1829, when it passed into the *American Journal of the Medical Sciences*. It contains, among many other respectable contributions, Dr. Klapp's Essay on "Temulent Diseases," in which the practice of giving emetics in delirium tremens was brought before the profession. It has also articles by Drs. Dewees, Atlee, Horner, Mease, Coates, Spalding, Eberle, Harris, Barton, Smith, Harlan and M'Clellan. Here was reported the famous operation of Deaderick for removal of the lower jaw. In the later volumes are contained a number of Prize Essays, among them one by Dr. Cartwright on Cholera Infantum, and one by Dr. Jackson, of Northumberland, on Gangrenopsis.

The North American Medical and Surgical Journal, established in 1826, and continued for a number of years, contains many articles of value. Among them are the following:—(Vol. I.) A Case of Extirpation of the Ovarium, by Dr. Alban G. Smith, of Danville,

Kentucky; Dr. J. K. Mitchell on Curvature of the Spine; Dr. Wood on the Use of the Oil of Turpentine in certain stages of continued fever; Dr. Wiltbank on the Action of the Heart; Dr. Shoemaker's cases of poisoning from eating pheasants. Vol. II. Dr. B. H. Coates on Gangrenous Ulceration of the Mouth in Children; Dr. Parrish on the Prophylactic Treatment of Cholera Infantum; Dr. Physick's account of an Operation for Artificial Anus. Vol. III. Dr. Stevens on Staphyloraphe; Dr. J. Rhea Barton's celebrated case of Anchylosis remedied by a new operation. Vol. IV. Dr. B. H. Coates on Delirium Tremens; Dr. Becton's case of Epilepsy treated by ligature of the left carotid; Dr. James on Extra-uterine Pregnancy. Vol. VI. Dr. Bond on removal of Foreign Bodies from the Œsophagus; Dr. Parrish on Cancer of the Breast. Vol. VIII. Dr. Parrish on Pulmonary Consumption. The two last mentioned articles are of the most useful practical character. Various papers in this journal begin to show the influence of the *physiological doctrine* of Broussais, which was more fully developed, at a later period, in the pages of the *American Journal of the Medical Sciences.*

The *New York Medical and Physical Journal* was published from 1822 to 1829. It contains articles by Drs. Francis, Bayley, Hosack, Torrey, Stevens, Beck, Mott (excision of lower jaw), Coventry, Delafield (on facial paralysis), Manley, Stevens, J. Kearney Rodgers, Willoughby, Matthew Smith, Bayard (case of ovarian tumour successfully extirpated).

The "*Philadelphia Journal,*" which has been already mentioned, was succeeded by the "*American Journal of the Medical Sciences,*" established in 1827, and still continued, having reached its forty-first volume. The long standing of this publication, the support which it has received from many of the best writers in different parts of the country, and the elevated literary character and spirit which have distinguished it, have rendered it a favourite organ of the profession. So much of what is valuable in our periodical literature, during the long protracted period of its existence, has found a place in its pages, that it would be going beyond the limits of this report to attempt an analysis of its contents. Here have been recorded many of those daring operations which are dwelt upon with so much pride by the American surgeon. Numberless cases of unusual interest have been here related by their observers, often accompanied by illustrations, for the most part creditable to the art which has

furnished them. Many of the reviews which it contains are conceived and executed in a higher spirit than the mere mechanical analyses and Taliacotian abstracts which so frequently usurp this department of scientific as well as literary journals. This periodical is so well known through the country, and a complete series of it so generally contained in public libraries, that a general index to it from the commencement would be one of the most acceptable offerings which could be made to the medical reader.

The committee had prepared an account of the most prominent articles under their several heads, but it proves to be too voluminous for a report like the present. The names of some of its contributors will be enough to show how extensively it has been supported by the ablest writers and practitioners of the country. In *Anatomy and Physiology*, original papers have been furnished by Drs. Horner, Moultrie, Coxe, Mussey, Warren, Earle, Smith, Allison, Harrison, Gardner, Leidy and others. In *Surgery*, Drs. Godman, Mussey, Randolph, J. & J. M. Warren, Coates, Mott, Norris, Kirkbride, Geddings, Nott, Shipman, Markoe, Parrish, Mettauer, Mütter, Horner, Pancoast, Watson, Atlee, Hayward, are among those who have lent their assistance, some of the best known among them in many elaborate articles. In the department of *Practical Medicine*, a great number of original Reports and Essays have been supplied by Drs. Chapman, S. Jackson, Emerson, Coxe, Horner, Hayward, Ware, Wright, Jackson (of Northumberland), Parrish, Pennock, Gerhard, Fisher, Nichols, E. Warren, Paine, Bigelow, Webber, Lindsay, Forrey, Beck, Flint, Coale, Earle, Stewardson, Kirkbride, Shanks, Parry, Mettauer, Whitney, Pepper, Hall, Dexter, Jarvis, Beck, Wharton, Lovett, Nott, Moreton Stillé, Boling, Tabb, Taylor, Porter, Tuck, J. B. S. Jackson, Peebles, Kneeland, Gardner, Buckler, Mendenhall, Lane and R. S. Holmes. On *Midwifery, and the Diseases of Women and Children*, among the principal contributors of original papers have been Drs. Dewees, Horner, Bigelow, Hodge, Gerhard, Geddings, Lindsly, E. Warren, Roberts, Lee, Kane, Shanks, Taylor, Bowen, Buel, Burwell, Bond, Sargent, Sims, and Baldwin. Many other names might be added to these lists, which, however, are sufficient evidence that the journal has been willingly and heartily upheld by the profession.

The following list comprises all the journals with which the committee are acquainted, now published in this country. The only quarterly publication devoted to medical subjects generally is the

American Journal of Medical Sciences (Philadelphia). Those published every two months, are the *New York Journal of Medicine*, the *Charleston Medical Journal and Review*, the *New Orleans Medical and Surgical Journal*, and the *Western Lancet* (Cincinnati). The monthly journals are the *Buffalo Medical Journal*, the *Medical Examiner* (Philadelphia), the *Illinois and Indiana Medical and Surgical Journal* (Chicago), the *Missouri Medical and Surgical Journal* (St. Louis), the *St. Louis Medical and Surgical Journal*, the *Western Journal of Medicine and Surgery*, the *Southern Medical and Surgical Journal* (Augusta, Georgia), the *Medical News and Library* (Philadelphia), and the *South-western Medical Advocate* (Memphis). Two weekly journals are published, the *Boston Medical and Surgical Journal*, and the *Annalist*, at New York, to which must be added a small sheet called the *Journal of Health*, published in Boston. *The New Jersey Medical Reporter and Transactions of the New Jersey Medical Society*, is the title of a periodical, published at Burlington, N. J., the first number of which appeared in October last, and which is promised to be continued quarterly.

In addition to the publications just enumerated, there are the *American Journal of Insanity* (Utica), the *American Journal of Pharmacy* (Philadelphia), and the *American Journal and Library of Dental Science* (Baltimore); each of which is a prominent representation of the department to which it is devoted. Several foreign periodical publications are reprinted in this country. The *British and Foreign Medico-Chirurgical Review* is published by two separate houses, in New York and in Philadelphia. The Messrs. Wood publish, in connection with their edition, a supplement called "*Addenda*," containing an abstract of the principal articles found in the American journals for the quarter preceding its appearance. The *London Lancet*, and the well known "*Braithwaite's Retrospect*" and "*Ranking's Abstract*," are also republished and extensively circulated.

The general plan of the original periodical publications which have been enumerated is very similar. The first part of each number is devoted to original articles, consisting of essays, histories of epidemics and endemics, series of cases, and single cases, and accounts of operations. Occasionally a more detailed and comprehensive history of some disease is introduced under the name of *monograph*, and not unfrequently extensive statistical tables are given, bearing especially upon surgical and obstetrical practice. Then follow *Reviews* or formal examinations of works recently published, usually analytical in character, and having for their principal object the

book rather than the general subject of which it treats. To this division succeeds a miscellaneous and heterogeneous assemblage of *bibliographical notices;* the sweepings of the critical *atelier;* the rinsings and heeltaps of the critical banquet; a necessary part of the editor's prospectus, but one which is least gratifying to minute inspection. Here the importunate friend receives his expected compliment, the dull dignitary is pacified with his scanty morsel of eulogy, the Mæcenas is paid in fair words for his patronage; the book which must be noticed and has not been read, is embalmed in safe epithets and inurned in accommodating generalities. Lastly, a considerable part of the number is made up of selections, either taken promiscuously from other journals and recently published works, or in the better managed periodicals classified so as to present a summary of the recent progress of science in its several departments.

The proportion allotted to these several divisions varies very much. Taking into consideration the usual difference of type in the original and borrowed matter, and the very liberal extracts which the reviewers commonly make from the work before them, it will be found that a very large part of all the journals is made up of quotations; and to a considerable extent of the same quotations, whatever may be the particular journal examined. The committee have been struck with the fact, that the same articles have been presented over and over again to their notice, in many different periodicals, each borrowing from its neighbours the best papers of the last preceding number, so that the perusal of many is not so much more laborious than that of a single one, as would be anticipated. The ring of editors sit in each other's laps, with perfect propriety, and great convenience it is true, but with a wonderful saving in the article of furniture.

In making these remarks, it is not intended to undervalue the great amount of intelligence and industry embodied in these periodicals, or to make any return of ingratitude to the faithful servants of science and humanity, who, in the midst of innumerable distractions, and often at an absolute sacrifice of their material interests, are giving their time and health, and substance, to the demands of this most exacting department of mental labour. The task of filling a vessel which had no bottom, used to be thought a severe punishment enough for regions where the art of torture was a science, but to fill a quarterly or monthly, or weekly receptacle with the pure distillation of two or three brains which have been tapped once, thrice,

or a dozen times a quarter for an indefinite period, is more than mortal stamina can support. The natural inference is, that no journal should be established which has not a pretty wide intellectual constituency to support it, unless it wishes to live upon the common stock without contributing a fair proportion in its turn.

In connection with the subject of periodical literature, it is proper to introduce the reports of societies and of public institutions. The Summary of the Transactions of the College of Physicians of Philadelphia, has been made familiar to most medical readers, either directly or through the large extracts from its pages to be found in the journals. Its reports are often of much value; as instances, that of Dr. Condie upon the protective powers of vaccination, and of Dr. Parrish upon varioloid, both contained in the same number, (Sept. to Nov. 1846,) and that of Drs. Bell and Condie on cholera, may be referred to. The transactions of the State Medical Society of New York contain many important papers, especially in the department of statistics, and local medical history. The Massachusetts Medical Society has continued to publish its communications from time to time for the last forty years. Among them are contained the Report on Spotted Fevers, so frequently cited by medical historians; Dr. Warren's cases of Diseased Heart, presenting the first distinct notice of that class of affections which was taken in this country after the epoch of Corvisart's remarkable treatise; Dr. Prescott's paper upon Ergot; Dr. Jackson's report on Typhoid Fever, in the words of Dr. Bartlett "altogether the most important contribution which has been made to the history of the continued fever of New England;" Dr. Hale's remarks on the Pathology of the same disease, "particularly valuable for its minute and careful description of some of the more characteristic physical signs, and of the intestinal lesions;" the Report on epidemic cholera; Dr. Ware's elaborate Essay on Delirium Tremens, and Dr. Bigelow's Address upon Self-limited Diseases.

Here also may be mentioned the numerous reports from the Insane Asylums, which of late years have been growing up in many States of the Union. The character of the men who have been selected to manage these institutions, reflects the highest honour on the medical profession which furnished them. It would be difficult to find any body of public servants, combining a greater amount of benevolent spirit and intellectual capacity than the superintendents of these asylums. In the department of the Medical Jurisprudence of Insanity, we find Dr. Ray generally recognized as a classical authority; New York has placed over her State Institution one of

the keenest observers, who has studied the physical and mental habits of our countrymen: the material arrangements of these establishments have been fully and ably illustrated by Dr. Kirkbride; the delineations of mental disease by Dr. Earle, have seduced even the literary journals by their singular felicity and elegance, while Massachusetts has given with one hand those ample statistics which were impressed with the sanguine character of the active philanthropist who has lately left her service, and with the other, the calm corrective which annually proceeds from the cool retreat of Charlestown.

The committee will now proceed to a brief enumeration of the more important articles, which have, within the past year, or at least recently, been presented to the profession in the medical journals of this country, taking them up in the order in which they have been enumerated.

American Journal of the Medical Sciences.—The number for January, 1847, contains one of Dr. Norris's admirable *resumés*, a "Table showing the mortality following the operation of tying the iliac arteries." It is founded upon a hundred and eighteen cases gathered from various sources, which are presented in a condensed form and subjected to a careful analysis. The committee have already fully expressed their sense of the importance of Dr. Norris's labours. The paper which follows, by Dr. Trask, of Brooklyn, N. Y. is worthy of succeeding that just mentioned. Four very full tables containing the history of fifty-three cases of phlegmasia dolens are given in this essay, the final object of which is to establish the pathology of the affection. Articles like the two just cited, are necessarily of permanent value. They cannot be superseded, because they have a solid basis of fact, and even if some of their conclusions were erroneous, the materials would remain as the basis of future results. The increased number of these laborious analytical surveys is one of the most encouraging features of our medical literature. In the midst of interminable discussions upon the value of the numerical system, the simple fact that tabulation affords a final result respecting a given number of facts, which mere perusal fails to do, is making itself felt like every truth which has time and fair play. The next article is one by Dr. Kirkbride on hospitals for the Insane, and the fourth a brief account by Dr. Wilcocks, of the epidemic remittent and intermittent of 1846. Then follow four cases of acute affection of the spinal marrow, with dissections, by Dr. J. B. S. Jackson of Boston, marked by his accustomed accuracy

of description. Several other cases are reported in this number, which contains two reviews of some interest, and the usual variety in its minor departments.

The first article in the number for April 1847, is one of great practical interest. It is the "*History of seven cases of Pseudo-membranous Laryngitis* or *True Croup*," by Dr. J. F. Meigs. The fact that recovery took place in four cases where there was fibrinous exudation on the fauces, entitles the history of these cases to the most careful examination, and affords a strong presumption in favour of the general plan of treatment adopted. It is well known that long series of similar cases have been observed, every one of which has proved fatal, and that the whole question of treatment is considered as involved in perplexity by many able observers. The paper which follows, by Dr. Baldwin, *Observations on the Poisonous Properties of the Sulphate of Quinine*, has been most extensively quoted, and has called out various other communications confirming the results at which he has arrived. In the malarious regions of our country, where the "monster doses" of this heroic remedy are so commonly given, it is of vital importance that all the risks they involve should be generally known. Then follow various reports of medical and surgical diseases, among which Dr. Earle's eleven cases of general paralysis of the insane cannot fail to be noticed for their psychological and pathological bearings, as well as the happy way in which they are related. A practical essay by Dr. Hildreth, on letting blood from the jugular in diseases of children, concludes the list of original communications.

The July number opens with another statistical article from Dr. Norris, on the operation of tying the carotids, of the same high character with those which he has furnished in previous numbers. The next paper is one by Dr. Hallowell, on cholera infantum, which he calls by the singular name of *gastro-follicular enteritis;* which would seem to imply inflammation of the intestines seated in the follicles of the stomach. The essay is an instructive one, based on considerable experience and supported by two reported cases with a tabular analysis of twelve *post-mortem* examinations. A "*Note on the frequency of the pulse and respiration of the aged*," by Dr. Pennock, adds authority to the curious results obtained by Leuret and Mitivié, who found the average frequency of the pulse in young men to be 65 per minute, while that of the aged was 73; a statement in direct opposition to the prevailing belief on this point. "*Hydropathy, or the use of Cold Water for the Prevention and Cure of Dis-*

case," by Dr. Kneeland, is the title of a Boylston prize essay, here published without any allusion to its laureate honours. The key to the author's position is found in the following sentence: "Instead of leading man back to the forsaken paths of nature, physicians have preferred the easier plan of ministering to this altered condition by the ingenious and stupendous system of modern therapeutics." He appears to believe, and as the committee think, very justly, that much indirect benefit may result even from the experiments of the hydropathist and homœopathist, notwithstanding the illusions and impositions that surround the fountain of the Silesian boor and the laboratory of the Saxon necromancer. The interest of Dr. Brown's account of his visit to the Cretins, in the institution on the Abendberg, is owing not merely to the novelty of the subject, which is just beginning to attract the attention of philanthropists, but to the agreeable style of the narrative. In a country which has done as much as our own for the insane, the blind and the deaf and dumb, it cannot be long before the improvement of the condition of the unfortunate idiot will be felt to be a public duty. Dr. Mettauer, whose name is familiar to the records of operating surgery, reports two cases of vesico-vaginal fistula, with the operations for their relief, one of which was perfectly successful, and the other, though repeated again and again, was but partially so. But this, as Dr. Mettauer thinks, was owing to the patient's amiable indiscretions, and he is decidedly of opinion that every case of vesico-vaginal fistula can be cured. Dr. Harris relates a case of doubtful sex, in connection with which the editor quotes that described by Dr. Barry, in the New York Journal of Medicine for January, 1847. Dr. Boling's new sign of pneumonia of the apex of the lungs, needs confirmation by other observers. The committee can affirm, at least, that it is not constant. It was extraordinary if, as Dr. Boling asserts, the chest remained still resonant on percussion over the apex of the lung in a state of hepatization. This number contains a long notice of Dr. Wood's Practice of Medicine, by one of the most searching and skilful reviewers our periodicals have ever enlisted in their service. It may be hinted, that one epithet, however *judicious*, must not be repeated too often; the accomplished reviewer remembers Gyas and Cloanthus.

The number for October, 1847, has for its leading article a continuation of Dr. Metcalf's *Statistics in Midwifery*, containing the results of 927 cases observed in private practice. It is a most creditable production to the author and the friends by whom he was

aided, and may serve as an encouragement and a model to other practitioners situated at a distance from the more active centres of scientific industry. Dr. Michel's history of an early ovum is not without interest, though its illustration is less exquisite than the "Icones" of Wagner, and the style is wanting in the simplicity which should belong to an anatomical description. Dr. Harden's Essay on Isopathia, agrees with the general belief in maintaining the similarity of scrofula and phthisis, but will hardly be thought to have established the doctrine, that Bright's disease is *isopathie* with these affections. Why *molluscum* should come under the same head is hard to explain. In the days of isomerism and isomorphism, it is natural enough for a medical observer to be pleased with the thought of introducing some such parallelism of elements into medicine, but it may be questioned, how much is gained by the somewhat promiscuous erudition and finely drawn propositions of this elaborate essay, beyond a harmonious name for a well known principle. Dr. Kelly, of Mobile, has given an account of yellow fever as this disease has presented itself to his own notice, written in clear and simple language, and keeping more closely than many writers on this subject have done to the strict results of observation. Some remarkable surgical cases and operations, a case of incision of the os uteri during labour on account of its partial occlusion, some researches on the structure and functions of the ciliary processes, and the case of the murderer Freeman, with a long review of some of the Boâ Vista fever documents finish the list of original articles. In this number, October 1847, appears a new and distinct head of medical intelligence, entitled *ether inhalation as a means of annulling pain.* It is remarkable, that as so much patient deliberation was shown in preparing the abstract of what was before the public, on this subject, an article like that of Dr. Pickford should be admitted, but more remarkable still, that any sensible reader should have been frightened out of receiving the last great gift of Mercy, by the assertions of such a writer, as would appear to have happened in at least one instance.

In the number for January, 1848, the leading article is Dr. Leidy's paper on the Comparative Structure of the Liver. This is unquestionably the most exact and complete Essay in the department of microscopic anatomy which has appeared in any American Medical Journal. The patient accuracy of the measurements, the finish and clearness of the numerous illustrations are nothing more than would have been anticipated by those who know the zeal and talent of this

exquisite dissector and delineator. The article which follows, by Dr. Frick, is one of the first attempts at the investigation of the chemical changes of the blood induced by disease, made in this country. Most of the conclusions arrived at by the laborious observations which served as its basis, coincide with those of previous observers. One peculiar and novel result arrived at by Dr. Frick is, that the quantity of the chlorides and phosphates of soda and potash is dependent, not upon the particular disease, but upon the *season of the year* in which the examination is made, being much higher in winter and spring than in summer and fall. Dr. Foltz deserves credit for printing his valuable Report on Scorbutus. It could be wished that all officers in the public service would discharge their professional debt as faithfully. Some of the author's expressions would seem to imply that *proteine exists only in vegetables*, which cannot surely have been what he intended to assert. Dr. Blake's paper appears to be founded on the same experiments which this ingenious physiologist reported some years ago to the British Association, and which have already taken their place in physiological science. The indefatigable Dr. Earle gives a brief analysis of five hundred and ninety-four cases of delirium tremens admitted into the Bloomingdale Asylum. Then follow several reports of interesting surgical cases. Under the name of "Monograph" we have next "A Statistical Inquiry into the Causes, Symptoms, Pathology, and Treatment of Rupture of the Uterus," by Dr. Trask, of Brooklyn, whose labours have been already mentioned with commendation.

The first paper in the April number is an account, by Dr. J. M. Warren, of Operations for Fissure of the Soft and Hard Palate, with the result of twenty-four cases, at the close of which is an important additional note upon the early operation for hare-lip. Dr. Warren proposed, some years ago, and has often executed, a new operation, which is fully described in this paper and the annexed cases. Dr. Peebles' "Result of cases of Pneumonia, treated chiefly by Tartar Emetic," may be well calculated to excite attention to the possible ill effects of that remedy, but is deficient in the diagnostic elements of its cases. The third patient, for instance, may have suffered, for all that appears, from phthisis with ulceration of the bowels. It does not appear from the record that the previous good health had persisted unchanged up to the period of the acute attack. Cases of successful vaginal hysterotomy and delivery by the forceps; of traumatic trismus successfully treated; of a fatal gun-shot wound of the neck: of ligature of both carotids; of the extirpation of a tumour of the

uterus, simulating ovarian disease; of cancer of the stomach, and of melanosis, are reported in this number—certainly a very remarkable collection of important medical and surgical histories, and implying an ample supply of materials to allow of such selections. Add to this Dr. Parsons' "Statistics of Large Surgical Operations," the Midwifery Statistics from private practice, by Dr. Pleasants, and the continuation of Dr. Trask's paper on Rupture of the Uterus, probably the most complete account of that accident to be found in print, and it must be owned that the Patriarchal Quarterly has not fallen below its own high standard of merit, at the point where the committee takes leave of it for the present.

The New York Journal of Medicine and the Collateral Sciences was commenced in the year 1843, under the editorial care of the late Dr. Forry, and has been continued in other hands to the present time. The name of the young physician just mentioned ought not to be passed over without some brief words of respectful commemoration. Removed by death at an age when many are just beginning to emerge from obscurity, struggling evidently with a frail and feeble constitution during the few years of action allotted to him upon earth, he has yet left behind him the record of labours which a strong man in his maturity might have shown as the proof of his faithful industry. Learned without any fondness for display, a lover of exact detail, but always searching for principles in the facts he accumulated so largely, a statistician, and yet a fluent and pleasing writer, he carried the same zeal for science into the various positions he successively occupied. How entirely this devotion to his pursuits prevailed over the common weaknesses and interests by which most men are influenced, was shown by the fearless readiness with which he threw himself into the focus of a pestilential disease for the sake of studying its nature and causes, as a mere episode in a pleasure-trip which he had undertaken to recruit his exhausted forces. So long as he lived the *New York Journal* was constantly enriched by his ample communications. His works on Climate and Meteorology, the former of which received the praises of Humboldt, will remain as his most lasting monument. But such papers as the History of the Fever at Rondout, and the Boylston Prize Essay on Revaccination, will always be referred to with interest, and give value to the pages of the Journal to which they were entrusted. Many other efficient collaborators have contributed to the success of this Journal, among whom may be mentioned Dr. Stevens, Dr. Watson, Dr. Swett, Dr.

Griscom, Dr. Stewart, Dr. Foltz, Dr. Davis, and the present editor, Dr. Lee.

The number for July, 1847, contains an excellent practical article, by Dr. John B. Beck, on the Effects of Blisters on the Young Subject, one of a series of papers on infantile therapeutics, which deserves a more permanent and convenient form than that of a contribution to a periodical publication. This number contains also a long article on the use of Galvanism, a case of successful amputation at the hip-joint, and some useful directions by Dr. Bliss as to the treatment of lying-in women.

The September number gives a portion of Dr. Lee's Catalogue of the Medicinal plants of New York, a valuable contribution to the Medical Botany of our country; a history of several cases of puerperal fever, apparently originating from erysipelas, and several other papers, more comprehensive in their titles, and less obvious in their utility.

Dr. Lee's Catalogue is continued in the November number; Dr. Griscom furnishes a good report of cases in the New York Hospital, Drs. Trevor and Parmley do battle upon the merits of the "Amalgam" for filling teeth, ending, as it seems to the committee, in the total discomfiture of the baser metals which have been prepared as a substitute for gold. The reader will be apt to pass willingly over certain argumentative pages for the sake of arriving sooner at the notice of the *American Microscope*, which the ingenious Mr. Spencer is just beginning to put into the hands of his scientific countrymen.

The January number brings to a conclusion the long Catalogue which the editor has taken so much pains to render complete. Dr. Cammann, known by his researches on *auscultatory percussion*, gives the results of some experiments on the ultimate distribution of the capillaries of the lungs. Dr. M'Dowell attempts to show that scurvy is an antagonistical affection to phthisis, and to educe some hopeful practice therefrom. Dr. Payne has an article on Hernia, and Dr. Earle, always a welcome contributor, furnishes a description of the Bloomingdale Asylum.

The number for March contains two papers of some interest, that of Dr. J. B. Beck on Acute Laryngitis, the substance of which was published as long ago as 1824, and Dr. Stone's Remarks on Typhus or Ship Fever, the main conclusions of which agree with those of the Committee on Practical Medicine for this year, so far as the latter have been made public.

The Charleston Medical Journal and Review was known until the present year as the *Southern Journal of Medicine and Pharmacy*. The numbers which have been examined by the committee contain several articles of interest. That for May, 1847, has a very interesting account of four operations for the removal of abdominal tumours. In this number, also, is included the first part of "A Medico-botanical Catalogue of the Plants and Ferns of St. John's, Berkly, South Carolina," by F. P. Porcher, M. D.; a *Thesis*, presented for graduation, which obtained a prize awarded by the Medical Faculty of the College of South Carolina.

Dr. Cain's paper on the Gastric origin of Croup, in the number for July, does not recognize the essential distinctions of the several affections which bear that name. An Essay, by Dr. Wragg, on the use of Animal Ligatures, in the September number, has been extensively copied in other journals.

The most prominent article in the November number is the paper of Dr. Harris, on Intermittent and Remittent Fever, which is continued in the number for March. Readers at a distance infinitely prefer closely observed and faithfully delineated histories of epidemic and other diseases to speculations about their nature and causes, however ingenious.

The principal articles in the January number are Dr. Nott's, upon Yellow Fever, Michel on Menstruation, Horlbeck on Superfœtation, and Strobhart on Malaria. That for March contains, besides the conclusion of Dr. Harris's paper, a singular case of Congenital Absence of both Globes of the Eye, illustrated by a figure.

The *New Orleans Medical and Surgical Journal* contains a large number of valuable papers on yellow fever, an account of which may be found in Dr. Bartlett's work on Fevers, (pp. 532, et seq., 2d edition.) In the number for January, 1847, is an essay by Dr. Carpenter on Periodicity as an Element of Diseases, which may be profitably compared with the remarks on the same subject in the work just cited (p. 380). In the number for May, Dr. Lewis commences his Medical History of Alabama. He follows the *epidemic constitution* through the different changes it has undergone in the period during which his observations extend. That such general changes in the character of disease, occur from year to year, or at longer intervals, is as true now as it was in the time of Sydenham, and it is equally true that it is an element very difficult to appre-

ciate, and very certain to excite discussion, when made the basis of a medical history, as Dr. Lewis must have already discovered. But there is great merit in this laborious attempt to give a medical history of an important region, and, however much it may be criticised, it could be desired that the example were oftener copied. The September number contains a useful practical paper, by Dr. Fenner, on Retention of the Placenta; and an extraordinary article entitled "Criticisms and Controversies relating to the Nervous and Muscular Systems," by Dr. Bennet Dowler. Obviously an acute thinker, and original observer, this gentleman allows himself to mingle so many acid, astringent, effervescent and over-heating elements in the large libations he pours on the altar of science, that all but the very thirsty are likely to sip rather than drink of the strange composition. The same article is continued in the November number, followed by a long criticism, by Dr. Boling, upon Dr. Lewis's Medical History of Alabama. In the January number Dr. Dowler employs his active intellect upon the tranquillizing subject of meteorology, which he has studied with his usual zeal and observation. Dr. H. T. Holmes' Practical Illustrations of Uterine Diseases, illustrate the propriety of employing the speculum, but the diagnosis will scarcely satisfy the exacting reader, and the result, in one or more of his cases, could hardly be considered final. Dr. Nott, a bold writer and good pathologist, has a well written and ingenious paper on Yellow Fever, in which he advocates the animalcular theory of its origin. Dr. Lewis *replies* at length to Dr. Boling's Criticism. Such discussions may be unavoidable, but they are to a medical journal what a chancery suit is to an estate. Several papers on epidemic cerebro-spinal meningitis are full of interest, as giving accounts of a disease which has appeared epidemically or endemically in various parts of the world before reaching this country.

The *Buffalo Medical Journal and Monthly Review* has reached the close of its third volume. It is divided into three departments, the first containing original cases and reviews, the latter often quite elaborate; the second made up of selections; and the third editorial and miscellaneous. The editor and one contributor, Dr. F. H. Hamilton, an able surgeon and ready writer, have done a large proportion of the labour of sustaining this journal. The first has furnished a number of original papers on various subjects; the Diagnosis of Urinary Changes and Remarks on Blood-letting, in the number for January, 1847; on Follicular Enteritis (Dec. 1847); with Re-

views of Latham on Diseases of the Heart, Green on Bronchitis, &c. Dr. Hamilton has contributed many cases, from his surgical clinique or private practice, and written several agreeable letters from Europe, besides a truly valuable paper on enlargement of the tonsils (September, 1847). The new instrument for reducing dislocations of small joints, described by Dr. Hamilton, in the number for April, 1847, was shown several years since, by one of this committee, to the Boston Society for Medical Improvement. Dr. Gilman Davis, of Portland, brought a number of them to Boston, and suggested the mode of using them since proposed by Dr. Hamilton. The other most important articles in the *Buffalo Journal*, are Dr. Coventry's account of "Stomatitis Materna," (Feb. 1848,) the Sore Mouth of Nursing Women, first specially described by Dr. Hale, of Boston; Dr. Jewett on Epidemic Erysipelas (Oct. 1847); Dr. Lockwood's note on the term of utero-gestation in man and the inferior animals (July, 1847); and Dr. Congar's Monthly Meteorological and Pathological Report. Two cases of trial for malpractice, in the August and September numbers, are also deserving of notice.

The *Medical Examiner* made its first appearance in the year 1838, at Philadelphia, under the editorial charge of Drs. Biddle and Clymer. The earlier volumes are rich in Lectures and Clinical Reports, among which those of Dr. Gerhard are particularly valuable. Its character seems to have changed of late years, a smaller amount of original matter being found in its columns. The articles most deserving of notice contained in this journal, during the past year, and a little more, are the following:—In the number for January, 1847, an account of a case in which the bones of a fœtus were retained for four years. In that for March, an article by Dr. Upshur, entitled Statistics of Cases of Miasmatic Fever. Some of his conclusions are that in a large majority of cases of every type, preparatory treatment is worse than useless, as leading to loss of time; that large single doses of 15 or 20 grains of sulphate of quinine produce more certain and permanent effects than doses of one or two grains often repeated; that this remedy acts as a sedative in the hot stage; and that in *uncomplicated* cases, mercurials are not at all essential. Dr. Paul Swift relates some experiments in illustration of wounds produced by the discharge of firearms without ball—a case of this kind, which he reports, having occurred in his practice. Dr. Thorne, in the April number, gives some cases showing, as he believes, the depressing influence of large doses of quinine. Dr. Pan-

coast has an article on vesico-vaginal fistula, in the May number, and a case of extirpation of the parotid, in that for July. Dr. Bryan has an Essay on Otorrhea, in the September number; Dr. Clark reports six cases of inhalation of ether in labour, in that for the following month; that for November has a very entertaining sketch of Burmah, and medicine among the Burmese, by Dr. Dawson; that for December, a long paper from Dr. Hare, entitled Objections to the Theory of Franklin, Dufay or Ampère, perhaps rather too abstruse for the scientific appetite of most medical readers. Dr. Bryan has furnished a long dissertation on Stricture of the Urethra for this number. This and several other numbers contain various articles on the use of ether and chloroform. In that for March, a writer who may be recognized by his initials as Dr. Ruschenberger, has a very extended article upon the subject of the United States Marine Hospitals.

Those numbers of the *Illinois and Indiana Medical and Surgical Journal* which have been brought to the notice of the committee, contain several articles of merit. Dr. Mead has contributed a paper to the number for June and July, 1847, on the employment of Hydriodate of Potass in Hydrocephalus. In this, as in so many attempts to show the utility of particular remedies, the great difficulty is, that the diagnosis is not sufficiently clear to furnish the basis of therapeutical deductions. Dr. Evans has written on Prolapsus Uteri in the same number; and Dr. Brainard on the employment of Strychnine in Intermittent Fever. Dr. Brainard's article on amputation in Scrofulous Diseases, published in the same Journal, in the number for June and July, 1846, contains suggestions of much practical value. Dr. Bicknell reports a case of Glossitis, in a more recent number.

The *St. Louis Medical and Surgical Journal* numbers Mr. James Blake among its contributors, and contains a full account of his experiments on the action of medicines. The committee look to its pages with the desire of seeing in them full accounts of the diseases of the important region which is represented by the rapidly growing place of its publication.

Dr. Yandell's sprightly letters from Europe seem to have attracted more attention to the *Western Journal of Medicine and Surgery*, than any of its other contents. His portraits are drawn with spirit,

but if certain readers had the hanging of them, some of those placed highest would come down, and their situations be occupied by others which he is disposed to undervalue. An article by Dr. Carroll, on Cancrum oris, in the August number, is the most deserving of notice among the other contributions to that portion of the Journal which has been examined by the committee.

The *Southern Medical and Surgical Journal* contains a very respectable proportion of original articles. Among them are an Essay on the Abortive Treatment of Remittent Fever, &c., by Professor Ford (March, 1847); Means on Electro-Physiology, and Dugas on Quinine in Intermittent and Remittent Fevers (Jan.); the Locality, Climate and Diseases of East Tennessee (July); Cases of Convulsions, &c., during Pregnancy, by Dr. Joseph A. Eve (September); and some curious notes on the Medicine of Moses, by Dr. Harden.

The *Annalist*, published weekly at New York, is particularly valuable for its numerous and ample Reports of *Cliniques*, of Hospital cases, and of the doings of the principal Medical Societies. The reader thus becomes acquainted, in an easy informal way, with the state of opinion among the experts in different branches upon the great points of inquiry constantly agitated in the forum of medical science. Many remarkable cases will be found in its pages, but comparatively few essays of a character to require analysis or special notice in this brief survey, among which, however, that of Dr. Stevens, on Croup, deserves special mention. Dr. Buck's new operation for œdema of the glottis, more particularly described in the Report on Practical Medicine, was also announced in this Journal.

The Boston Medical and Surgical Journal, another weekly periodical, was established in the year 1828, and has maintained itself to the present time. Its contents have been more various than those of any of its contemporaries, and its pages have been used by anonymous correspondents with a freedom which recalls the early days of the *Lancet*. For this or other reasons much of the medical literature of Boston and its natural tributaries has been diverted into other and distant channels. Still it has received many valuable contributions from the practitioners of New England and its Capital, and continues to be a medium through which some eminent members of the profession occasionally communicate with the public.

The great feature in the recent history of this Journal, and one which will cause it to be always held in remembrance, is the fact, that the early history of the introduction of the use of ether into surgery is to be found in its volumes for 1846 and 1847. Without any remarks upon the general subject, the following papers may be mentioned in the order of their appearance. Dr. Henry J. Bigelow's of Nov. 18, 1846; Dr. Peirson's of Dec. 2; those of Dr. J. C. Warren, Dec. 9; Dr. S. Parkman, Dec. 16; Dr. Stedman, Feb. 17, 1847; Dr. J. M. Warren, March 24; Dr. Keep, April 14; Dr. Hayward, April 21; Dr. Channing, May 19; Dr. Brown, June 9; Dr. Hosack, Aug. 11; Dr. Putnam, Jan. 26 and Feb. 2, 1848.

In addition to these, among the recent papers of importance, are Dr. Drake's Letter on the Irish Emigrants' Fever (Sept. 22, 1847); Dr. Sutton's cases of Retained Placenta (Nov. 17); Dr. J. Mason Warren's cases of Foreign Bodies in the Air Passages (Dec. 15); Dr. Charles E. Ware's case of Application of Nitrate of Silver to the Larynx in Croup, resembling the one described by Dr. Blakeman, and credited to the "*New York Medical and Surgical Reporter;*" Dr. J. B. Upham's Clinical Notes and Post-mortem Illustrations of Typhus or Ship Fever, as it occurred at the House of Industry and Deer Island Hospitals in 1847, (Jan. and Feb., 1848;) an account drawn up in great detail, and highly creditable to the talents and industry of the young physician who gave it to the public.

In proceeding to the second division of their task, the committee have thought it expedient, as in the portion just finished, to take a retrospective glance at the more prominent works which have been published in this country in the several departments of Medical Science. They cannot pretend to give a complete catalogue, nor to criticise or characterize all the works they mention. For the sake of convenience, these works have been arranged under general heads, the first place being usually given to original productions and compilations by American authors, the second to translations from other languages, and the third to reprints of books written or translated elsewhere.

ANATOMY.

Dr. Wistar's Treatise, a concise and convenient manual, long popular in the schools, has been modernized by Dr. Pancoast. Dr. Horner's works on Special Anatomy and Histology, and on Practi-

cal Anatomy, retain the position which they owe to the laborious and successful devotion of the Author to this branch of science. Dr. Parsons's "Anatomical Preparations," published some years ago, contains many details upon this department of anatomical labour which are very useful to those who have not the works of Pole, of Maygrier, or of Lauth. Dr. Godman published a small volume of "Anatomical Investigations," containing some original remarks, and accompanied with illustrations.

Some laborious translations have been executed in this country. The earliest was Dr. Hayward's translation of Bichat's General Anatomy, a work of genius, always valuable, even if superseded in many respects by the labours of modern histologists; Dr. Doane translated Meckel from the French, in three heavy volumes, full of exact detail, and particularly convenient from its containing a part devoted to General Anatomy, and an account of the principal anomalies and morbid changes to which the organs are liable. The manual of Bayle was translated by Dr. Gross, and that of Maygrier by Dr. Bedford.

A large number of works on Anatomy have been reprinted. The slender outlines of Cheselden were the first volume on this subject presented to the American student. The fascinating volume of John and Charles Bell was edited, with notes, by Dr. Godman, and has been repeatedly republished. The Elementary Treatise of Paxton, the translation of Cloquet, by Dr. Knox, and that of the original, and, in many points, excellent Anatomy of Cruveilhier, by Dr. Madden, have also been reprinted. Wilson's Manual has been the "champion of the light weights" in this department for a number of years. A close-packed and somewhat adust abstract from the German of Von Behr is its last rival. Few works on special anatomical subjects have been called for; among these are Spurzheim and Solly on the Brain, one the work of a philosopher, the other of a dissector; and a curious and somewhat fanciful little treatise on the Eye, by Dr. Wallace, of New York, with tail-pieces, like those in Bewick's British Birds. Many dissecting manuals have been reprinted; among them, Bell's Dissections; the London and Dublin Dissectors; Wilson's Practical Anatomy, and Tuson's little book, with figures wanting in suavity of outline. Besides these, many illustrated works have within a few years been published in this country. First in point of originality, labour, and execution must stand the *Crania Americana* of Dr. Morton; a work which can be referred to with pride, both for its scientific and artistic character. The old figures of Haller, Bell, and Wistar, many of which required a skilful anato-

mist to decipher their meaning, have been superseded by much better ones for the student's purposes, which can be obtained at moderate cost. The best of these are the plates of Quain and Wilson, a well selected and well copied series, impressions of which vary very much, however, many copies apparently having been sent abroad after the plates had been more than sufficiently used. The Atlas of Smith and Horner, though executed on a small scale, is very serviceable for many purposes, and especially useful as giving numerous representations of minute structure. Besides these, the small Atlas of Masse, the plates of Sarlandière, the large figures of Manec, and, recently, elementary illustrations of the circulating and nervous systems, for the use of the student, by Drs. Goddard, Neill, and Allen have been published in this country.

In Regional and Surgical Anatomy, translations have been published of the Manual of Edwards, and the more extensive works of Velpeau and Blandin, the latter by the indefatigable Dr. Doane.

PHYSIOLOGY.

The principal original works in this department are those of Dr. Dunglison and Dr. Oliver; the first, an extended compilation, marked with the extensive learning of the well-known author, who has touched nothing without rendering it service; the second, a carefully studied, perspicuous, well written abstract of the science as it appeared to an elegant scholar, familiar with the best authorities, but writing under the disadvantage of comparative remoteness from the busier centres of science. Several works of a different character, but adapted to be very useful in schools, and to the public generally, have been written by Drs. Hayward, Lee, Coates, Griscom, and Jarvis. The work of the latter gentleman is remarkable for the number of original observations and illustrations which it contains. Dr. Ticknor's "*Philosophy of Living*," Dr. Dunglison's "*Human Health*," Dr. Bell on *Regimen and Longevity*, Dr. Griscom on the *Sanitary Condition of the Labouring People of New York*, Dr. Brigham's two striking Essays, and Dr. Warren's *Essay on Physical Education and the Preservation of Health*, sufficiently indicate the increase of attention to the laws of life which has been noticeable in this country of late years. At the opposite pole of science to these simpler practical treatises, stand the two large volumes of Dr. Metcalfe on Caloric, a work of high philosophical pretensions, which only the robuster class of readers have as yet grappled with, and which

has led to some warm discussions, as might have been expected from its title.

Two French Treatises have been translated in this country; that of Magendie by Dr. Revere, and that of Edwards by Dr. Lane. The first of these authors is renowned as a bold and ingenious experimenter, but his work cannot be taken as representing the present state of science. The second is a very neat elementary treatise, well adapted for popular use, as far as it goes.

A great number of physiological works have been republished. Early in this century (1803), Haller's First Lines, in an English translation, were reprinted at Troy, and passed into long and extensive use as a manual; a few years later, a translation of the popular work of Richerand was published at Philadelphia (1808). Twenty years after this appeared the eloquent and daring Lectures of Lawrence, rendered notorious by contemporaneous disputes, but entitled to better celebrity for the spirit, elegance of style, and learning which they exhibit, and which render them as valuable now as when they were published. The Treatise of Bostock, a learned compend of the history of the science, was reprinted at Boston in 1825. The tame compilation of Roget, published some years since, is much less attractive than his Bridgewater Treatise, which was also reprinted in this country. Three works of more recent date than any of those mentioned have been republished in whole or in part, each of which has high and peculiar merit. The first is the great work of Muller, which, somewhat abridged, has been edited by Dr. Bell; the second, the Principles of Physiology, by Dr. Carpenter; the third, the Physiological Anatomy of Drs. Todd and Bowman. Muller's work is a rare union of erudition and experimental knowledge, a Cyclopedia in itself of modern physiology; Carpenter's is a vigorous and lucid digest of physiological knowledge, with much more originality in its views than in its facts; Todd and Bowman's is more concise, deals more in facts than doctrines, and is rich in fresh and accurate observations. The illustrations of both these last mentioned works are admirable—those of the latter especially—which are almost all original. Among the publications of a popular character those of George and Andrew Combe have enjoyed and deserved the highest reputation.

A few works have appeared on special points of physiology. One of them is an *Essay towards the Correct Theory of the Nervous System*, by Dr. Harrison of New Orleans. The "*Experiments and Observations*" of Dr. Beaumont should be mentioned in this connection as the most valuable contribution America has yet pre-

sented to physiological science. Another is a Treatise on the Forces which produce the Organization of Plants, by Dr. Draper, in which is contained a theory of the circulation in the capillaries equally simple and ingenious. The lectures of Matteucci on the Influence of Physical Agents, etc., are full of novel and interesting experiments, especially that portion of them relating to absorption and secretion, the muscular, and the nervous functions. A little treatise by Dr. Burrows, on the Cerebral Circulation, has settled, it may be hoped, the long litigated points relating to this subject; it has at least refuted by experiment the theoretical dogmas which have been current, as to the uniform supply of blood to the brain under all circumstances.

SURGERY.

The general treatises of American origin are those of Dorsey, Gibson, and M'Clellan; the last but just published, a posthumous work appearing under the editorial supervision of a son of the author. A compilation entitled "Surgery Illustrated" containing many excellent figures, was published some years ago by Dr. Doane. A Cyclopædia of Medicine and Surgery, which was commenced in Philadelphia, never went beyond the first two volumes, which contain several good articles. Of special treatises, those of Dr. Warren on Tumours, Bushe on Diseases of the Rectum, Parrish on Hernia, and Gross on Wounds of the Intestine are the most prominent. The principal illustrated works besides those which have been mentioned, are Anderson's System of Surgical Anatomy, the Surgical Anatomy of the Arteries, by Dr. N. R. Smith, Pancoast's Operative Surgery, and Darrach's Drawings of the Anatomy of the Groin, the two last of comparatively recent date (1844). Various smaller works on surgical subjects have been published by American authors, several of them quite recently; among them, Chase on Hernia, Detmold on Clubfoot, and some Analogous Diseases, Rivers on Accidents, with directions for their treatment (1845), Sargent and Smith on Minor Surgery, Dr. H. J. Bigelow on Orthopedic Surgery, Dr. Dix upon Strabismus, and Dr. Warren upon Etherization and Chloroform.

The translations of surgical works have been numerous. At the head of the list stands Dr. Townsend's Translation of Velpeau, made under the supervision of Dr. Mott. With some defects in point of taste, which have furnished sufficient occupation for criticism, this is allowed to be a work of genuine merit of its own, in

addition to that which it owes to the indefatigable author of the original treatise. An English translation of the learned work of Chelius, now appearing under the supervision of Dr. Norris, is the only one likely to come in competition with this voluminous and comprehensive production. Dr. Doane has translated the Clinical Lectures of Dupuytren and of Lisfranc, and the excellent Treatise of Ricord on Venereal Diseases: Lallemand on Spermatorrhea, giving an important but exaggerated view of a certain class of cases, has been translated by Dr. Wood.

It is unnecessary to mention the names of all those authors of established merit whose works have been reprinted in this country. The writings of Hunter, Pearson, Hennen, Abernethy, the Coopers, Travers, Brodie, Guthrie, and many more, familiar to every surgical student, have been multiplied in this country perhaps as freely as in their own. Those which have been more recently introduced are the several works of Liston, republished under the care of Drs. Gross, Mütter and Norris, whose names are a guarantee of their excellence, those of Fergusson and of Miller, and especially the popular *Vade Mecum* of Druitt, one of the series of publications which are making a medical Elzevir of Mr. Churchill. Dr. Walshe's admirable essay on Cancer from the Cyclopædia of Surgery, was published a few years since with real and important additions by Dr. J. M. Warren.

In Ophthalmology, the original Manual of Dr. Littell was published in 1846, and that of Mr. T. Wharton Jones, edited by Dr. Hays, during the present year. The same editor superintended the publication of Lawrence a few years before, a new edition of which has recently appeared. The copious treatise of Mackenzie was republished in Boston some years earlier.

In Dental Surgery, the principal original works are those of Dr. Harris, and Dr. Goddard. The treatise of Maury, translated by Dr. Savier, is highly recommended and used as a text book in the Baltimore College of Dental Surgery. The classical work of Fox has been remodelled and published under the care of Dr. Harris.

THEORY AND PRACTICE.

A considerable number of original treatises of a general character have appeared in this country. The syllabus of Dr. James Jackson and the volume by Dr. Hosack, were only abstracts or partial representations of the lectures given by these distinguished teachers.

The works of Eberle, Dewees, Thacher, and Gallup, have been to a great extent superseded by those of more recent authors. Dr. Cook's Treatise on Pathology and Therapeutics, is perhaps best known in the notice taken of it by Dr. Bartlett in his work on Medical Philosophy. Dr. Samuel Jackson's Principles of Organic Medicine shared the decline of the doctrine in the spirit of which it was written. The American Treatises now most prominently before the public, are the Lectures of Dr. Chapman, which it is unnecessary to commend in a report to this Association; the learned compilation of Dunglison, the practical and judicious work of Dr. Wood, one of the recent important contributions to American Medical Science, the Lectures of Bell and Stokes, the greater part of which are by the American author, and the massive volumes of Medical and Physiological Commentaries by Dr. Paine. The work of Dr. Dickson, which embraces a more limited range of subjects than some of those mentioned, is particularly valuable to the student of the diseases of the South. Dr. Bartlett's Treatise on Medical Philosophy, is as remarkable for the elegance of its style, as for the liberal and genial spirit and truly philosophic breadth of view which it exhibits. Dr. Stillé's Treatise on Pathology, very recently published, is an important addition to American Medicine. The author has been trained in the rigorous school of observation, and assumes an elevated standard for the student, in reaching which the work itself will prove an admirable guide. Among many points which deserve attention in this volume, the explanation of the heart's impulse by referring it to the distension of the ventricle, by the contraction of the auricle, is the most original. Contrary to the prevailing physiological opinion, Dr. Stillé does not hesitate to admit, that the weight of facts and probabilities is in favour of the doctrine of spontaneous generation. The introductory essay to this volume is another chapter of the "Philosophy of Medicine," with a few sentences which savour of Oxford, but equally remarkable for comprehensiveness and accurate discrimination. Few general works on medicine have been transferred from foreign languages. Broussais's History of Chronic Phlegmasiæ, and Principles of Physiological Medicine were both translated by Drs. Hays and Griffith. His Treatise on Physiology applied to Pathology, translated by Drs. Bell and La Roche, appeared about the same time. The Elements of General Pathology of Chomel, an admirable manual, has been carefully translated by Drs. Oliver and Morland, and published within the past year.

In the meantime, great numbers of British text books have been

honoured with republication. Cullen's ever memorable First Lines were edited by Dr. Caldwell; Gregory by Drs. Potter and Colhoun, who made considerable additions; Armstrong, Good, Mackintosh, Hall, Elliotson, Watson, Alison, Williams, Billing, Latham, Quinn's translation of Martinet, and the three great compilations, the London Cyclopædia, Tweedie's Library, and Copland's Dictionary, the last with many valuable additions by Dr. Lee, to which may be added Dr. Spillan's Translation of Andral's Clinique Médicale, have poured their copious floods of foreign science into the American medical mind. Of the text books recently republished, Watson is very justly the principal favourite. His wide range of medical reading, inwrought with sufficient practical experience, the easy colloquial graces of his style, the sharp and picturesque turn of his descriptions, the sensible and simple rules of practice which he lays down, and a certain peculiar tact which teaches him what the student wishes to know, and how it will best be conveyed, render this book a model in its kind. Elliotson is a more original practitioner, and a still more discursive scholar; his book is a great favourite in England, and may be read with profit, and often pleasure, anywhere. Of Dr. Mackintosh's work, it must be confessed that though a bold and manly practitioner, he has admitted many expressions and feelings into its pages which are to be regretted by every dispassionate reader. Dr. Alison's Outlines of Pathology are impressed with the philosophical character of his high intellect, but less applicable to the student's immediate wants than the Principles of Medicine, by Dr. Williams. Dr. Holland's Medical Notes and Reflections treat of a variety of subjects with ingenuity and good sense, and in an easy unaffected style.

In passing to the works of a more special character, the whole field of American Medical Literature, from its earliest times, is thrown open. Boylston, the hero and almost the martyr of inoculation, and Douglas, his keen opponent, Cadwallader, Tennant, Bond, Gale, Lining, Chalmers, Garden, Colden, Ogden and Bayley, are among those who began the task, which at a later period was continued by the ardent enthusiasm of Rush, the descriptive energy of Currie, the bold invention of Miller, and the acute practical sense of Nathan Smith.

Besides the innumerable essays in the periodical publications on the fevers of this country, and the notices of them contained in the general works already cited, various separate essays have appeared at different periods. At the head of the list must be placed, by

common consent, the masterly and elegant treatise, by Dr. Bartlett, the second edition of which has been recently published, and which, as a systematic *resumé* of the existing knowledge on the subject of these diseases is invaluable to the American student and practitioner. Another recent treatise is that by Dr. Clymer, entitled, Fevers, General and Special.

The Spotted Fever of New England called out several works in addition to the Report of the Massachusetts Medical Society, and many articles in journals and in other publications. The essays of North, Strong, Wilson and Hale, are familiar to all who have studied the history of this disease.

Several American authors have written express treatises on Yellow Fever; Dr. Bartlett mentions the names of Carey, Currie, and of a more recent date, Daniell, of Savannah, briefly characterizing the peculiar features of their works; a portion of the writings of Rush and Hosack is devoted to this disease, and there are numerous scattered articles, some of which have already been referred to.

Only a single American work, directed entirely to the subject of Typhoid Fever, is cited by Dr. Bartlett, but that one is the "Practical Essay" of Nathan Smith, of which he says, very justly, that "to an American practitioner it is worth more than all the modern English treatises on fever put together." The Essays of Drs. Miner and Tully, written in a very different spirit, must also be mentioned.

The translations which have appeared on the subject of Fevers, are that of Senac, by Dr. Caldwell, of Hildenbrand, by Dr. Gross, of Louis on Typhoid Fever, by Dr. Bowditch, and on Yellow Fever, by Dr. Shattuck. The British works which have been reprinted are those of Fordyce, of Bancroft, edited by Dr. Davidge, Wilson Philip, edited with additions by Nathan Smith, Macculloch on Remittent and Intermittent Diseases, Southwood Smith's Treatise, and Tweedie's Clinical Illustrations.

The Eruptive Fevers have found but few formal historians in this country. William Douglas published some little essays on Small-pox, on a "New Epidemical Eruptive Miliary Fever in Boston," and on another epidemic fever attended with angina, probably scarlet fever,—all of which might in more modern times have appeared as articles in Medical Journals. A century afterwards, Dr. Fisher, of the same place, published his Description of Small-pox, Varioloid Diseases, Cow-pox and Chicken-pox, with a number of

coloured plates, executed in Paris; a work of much accuracy and beauty.

The only foreign work on the Eruptive Fevers which has been republished, as far as the committee are aware, is that of Dr. Gregory, consisting of his Lectures delivered at St. Thomas' Hospital.

The special treatises on the diseases of the *Thoracic Organs*, are Dr. Gerhard's Lectures on the Diseases of the Chest, an excellent guide to the student, especially in all that relates to the physical signs, Dr. Bowditch's Young Stethoscopist, Dr. S. G. Morton's Illustrations of Pulmonary Consumption, Dr. Sweetser's useful essay on the same disease, and Dr. Green's Treatise on Diseases of the Air Passages, a work of great interest as advocating important if not original views, but which has excited a good deal of angry controversy.

The following works on this class of diseases have been translated in this country:—On Diseases of the Heart, Corvisart, by Dr. Gates; Bertin, by Dr. Chauncy; Aran, by Dr. Harris; Andry, by Dr. Kneeland. On Auscultation, Raciborski, by Dr. Post, and Barth and Roger, by Dr. F. G. Smith. The works reprinted are Collin on the Stethoscope, Forbes' classical Translation of Laennec, Walshe's admirable systematic exposition of the phenomena belonging to Physical Diagnosis, the treatises of C. J. B. Williams and Hughes on the same subject, Trousseau and Belloc, and Ryland on Diseases of the Larynx, Hope on those of the Heart, with important additions by Dr. Pennock, Clendining and Marshall on the same diseases, Stokes on Diseases of the Chest, and very recently Blakiston on the same subject.

The Diseases of the *Digestive Function* are represented in American Medical Literature, by Mr. Halsted's "Account of the New Method of Curing Dyspepsia," and such notices as they could obtain in the journals and more general works.

The most remarkable European works on these diseases which have been republished, are—Boisseau on Cholera Morbus; one of Broussais' disciples, who found a translator in Dr. Bedford; two or three little books of Dr. James Johnson, whose character as a medical author has been sketched with merciless justice by Dr. Bartlett; the Essay of Pemberton, still consulted with advantage; the thoroughly English book of Wilson Philip, on Indigestion; the suggestive, replete, profound, but heavy and obscure treatise of Prout; the excellent Pathological and Practical Researches of Abercrombie, the Andral

of Scotland; Parker on Diseases of the Stomach; and very recently Budd on Diseases of the Liver.

Dr. Worcester, of Cincinnati, whose early death is much to be lamented by the profession, published, in 1845, the only original treatise on *Diseases of the Skin* which the country has produced. The translations of Cazenave and Schedel, and of Rayer, and the works of Green, Plumbe, Dendy and Wilson, have been republished.

Dr. Gross' *Pathological Anatomy*, an original work with numerous illustrations, has passed to a second edition, and been adopted as a text-book in several medical schools. Dr. J. B. S. Jackson's "Descriptive Catalogue of the Anatomical Museum of the Boston Society for Medical Improvement," is justly said, by Dr. Stillé, to be "by far the most important and original illustration of morbid anatomy yet published in America." Dr. Horner's Treatise has been long known and esteemed.

The following works have been republished wholly, or in part; the little Essay of Baillie; the work of Andral, translated by R. and W. Townsend; the first part of Rokitansky, by Dr. J. C. Peters; the general treatises of Mayo and Vogel, and that of Hasse on the Diseases of the Organs of Circulation and Respiration.

Various other American productions not falling under the above heads, remain to be noticed. Mann's Medical Sketches give interesting accounts of the diseases prevailing in the army in 1812, and the following years; Webster's brief History of Epidemic and Pestilential Diseases, is an earlier contribution from a deep scholar not belonging to the medical profession; Dr. Forry's works on Climate and Meteorology, have been already alluded to; Dr. Lawson's Meteorological Register should be mentioned in the same connection; Dr. Henderson's Hints on the Medical Examination of Recruits, are valuable to the army surgeon; and Dr. Stewart's account of the Hospitals of Paris, must be prized by all who visit that great centre of medical instruction.

Among the many works which have not been mentioned under the above heads the following may be briefly referred to. Those of Clymer, Willis and Bird upon Urinary Diseases; of Carmichael, Ricord, Parker and Acton on Venereal Affections; of Hufeland, translated by Dr. Meigs, and of Lugol, translated by Dr. Doane, on Scrofula; of Phillips on the same disease; of Rush, Esquirol, Prichard, Baillarger, Spurzheim, Combe and Millingen, on Insanity; of Andral on the Blood, translated by Drs. Meigs and Stillé, and of

Rees, Markwick and Griffith, on the same subject, recently published; Thacher on Hydrophobia; Hillary on the Diseases of Barbadoes, and Pringle on those of the Army, both edited by Dr. Rush; Johnson and Martin on the Influence of Tropical Climates. Many valuable works were reprinted in the Medical Libraries, published by Drs. Bell and Dunglison, which were the means of diffusing, in a cheap and serviceable form, a large mass of foreign medical literature.

The *Medical Dictionaries* of Drs. Dunglison and Gardner, and the reprints of Hooper and Hoblyn, must not be forgotten. Still less should the debt of gratitude be repudiated, which the profession owes to its *biographers*. The memory of many of our brethren, whose names we would not willingly let die, are rescued for posterity in the laborious, kindly and erudite work of Dr. Thacher; for the continuation of which Dr. Williams lives to receive the credit due to his grateful exertions.

It is the fate of most works on *Materia Medica* to be soon superseded by newer compilations. The works of Barton, Bigelow, Coxe, Chapman and Eberle, have been, to a great extent, replaced by that of Wood and Bache, the well-deserved popularity of which is still continued; the "*New Remedies*," of Dunglison, which has passed through several editions; the illustrated Treatises of Griffith and Carson; the works of Ellis, Bell, Paine, Harrison, Beck and Carpenter, may be added to the ample list of native productions on this ample topic. Besides these, many foreign treatises have been domiciliated in our own literature, among which that of Pereira stands pre-eminent for completeness and weight of authorities. Very recently the catalogue has been enlarged by the works of Ballard and Garrod, Royle, Neligan, Thomson, a new edition of Paris' Pharmacologia, and last upon the list, Mayne's Dispensatory.

In *Midwifery*, the Compendium of Bard, and the fuller Treatise of Dewees—the work which has done more than any other to form the obstetric habits of this country—of Meigs, of Tucker, and of Warrington, constitute the library of American authors. Moreau's splendid volume has been presented to the public in an English dress, by Dr. Goddard; the free and easy females of Maygrier have found themselves transferred to the blushing pages of American science; Velpeau has been given in translation by Dr. Meigs, and Chailly by

Dr. Bedford, while Denman, Burns, Maunsell, Collins, Kennedy, Rigby, Ramsbotham, Blundell, the London Practice, Lee, Murphy, Spratt, and even Ryan, have been appropriated, and sometimes improved by successive generations of editors.

The *Diseases of Women* were made the subject of a separate volume by Dr. Dewees, and have been recently arrayed in a somewhat fantastic costume, in a volume of letters by the same hand to which the translation of Colombat was owing. Lisfranc's Treatise on Diseases of the Uterus, was translated by Dr. Lodge, of Boston. Ashwell's Practical Treatise, the volume of Churchill, and various essays on Puerperal Fever, have been reprinted.

Four valuable works on the *Diseases of Children* have proceeded from American authors. The first is that of Dewees, too long known and valued to require comment, the second that of Dr. Eberle, which would doubtless have been enlarged and improved by the author, to meet the demands of the time, had he lived to watch over the fate of his productions; the third that of Dr. Stewart, which appears to be a careful digest by an experienced practitioner; and the last that of Dr. Condie, whose scholarship, acumen, industry and practical sense are manifested in this, as in all his numerous contributions to science. Besides these native productions, the treatise of Billard has been translated by Dr. Stewart, that of Underwood republished, with notes, by Dr. Bell, and the excellent one of Evanson and Maunsell, with notes, by Dr. Condie.

Two original works on *Medical Jurisprudence* have done more than almost any others to raise the character of medical science in this country in foreign estimation, while they have been duly honoured and valued at home. These are the Elements of Medical Jurisprudence, by T. R. and J. B. Beck, universally accepted as an authority of the highest order; and the Medical Jurisprudence of Insanity, by Dr. Ray, which has already been honourably mentioned. Among the works that have been reprinted are those of Ryan, Trail, Paris and Fonblanque, Christison, Guy and Taylor.

This list may be closed by referring to the various works designed for the temporary assistance of the student, such as the Manual of Ludlow, the "Medical Student" of Dunglison, and the Vade-Mecum of Mendenhall.

Having thus briefly surveyed the domain of American Medical Literature, the Committee proceed to make some few remarks upon its character and tendencies.

In the course of half a century from the establishment of the first of the Medical Journals, their number has been gradually rising, until at the present time, at least twenty are known to be in existence. Some principle in addition to the wants of the reading community, must exist to account for such inordinate fecundity in this particular department. This is to be found in the homely fact, that a medical journal is a convenient ally and advertising medium for public institutions and publishing establishments, and that by the *help yourself* system so generally established, it is not necessarily much harder to edit a medical journal than to furnish the "notes and additions" to the work of a British author. Still, the general character of these journals is respectable, and of several among them highly creditable to the state of medical science. Every year shows that exact observation is more and more valued, and that a better literary standard is becoming gradually established. The Committee would not discharge an important duty, if they neglected to point out what appear to them the most obvious defects noticeable in this important department. The first is a tendency to speculate, and very often to dispute about the ultimate causes of diseases, instead of thoroughly investigating their phenomena. This is a point which has been made the subject of controversy elsewhere. Whether the true version be "Don't think but try" or "think, *and* try," it very certainly is *not* "think, *instead* of trying," or "instead of observing." Yet, this is the way in which an incalculable amount of time and paper has been wasted, by men of ingenious minds, placed in the very midst of pathological occurrences which had never been properly studied in their character of phenomena, and this it is which gives such a gaseous and unsubstantial character to many of our magazine articles, that even the greedy Abstracts and the cannibal Retrospects, pass them by as diet fit only for the chameleon! Another and sorer cause of complaint, of occasional but not frequent occurrence, is to be found in the liberties allowed to anonymous writers—not so much with regard to each other, for if "Medicus" and "Senex" were to succeed in reciprocal annihilation, the loss might not be serious—but with regard to their neighbours at large and to things in general. An editor is responsible that nothing shall be admitted into his pages, the essential character of which is hostile and inflammatory, on the same principle that he is bound to

be courteous in his common intercourse. Some errors of this kind are doubtless owing to want of careful supervision on the part of the editor. That such negligence is very general, there can be no dispute; there is hardly one of the journals whose fair features are not marked with the *acne* of typographical inaccuracies—and as the editors are educated men, the inference is inevitable that they have not read their own pages. Some years since, a leading American Journal remarked of the report of the Massachusetts Insane Hospital, "on page 79, is a very important typographical error—the word *chains* occurs twice when it should be *chairs*. No chains have ever been used in the institution." But, within a few months the same journal allowed the following words to stand upon its pages as Latin: "*mulierem uteres gerentum morta quopiam acuto corripi iefbale;*" and speaks in its January number, of a disease as being "imminently curable."

The Committee have no intention of furnishing a list of errata to the periodical works in question, although they have almost involuntarily accumulated the means of so doing. The most unpardonable are those which mangle and distort the names of our medical authorities—"Lænnec," "Bœrhaave," "Bonelli," "Shenk," and many more, have suffered this kind of mutilation or martyrdom. On the other hand, some new honours have been awarded by a similar mechanism, and what is still more remarkable, new authorities in science have been created by the same agency. "Baron Louis" received his title in Boston (Nov. 3d, 1847); "Sir John Hunter" was knighted in New York (Jan. 1848), and *Hives*, the inventor of "Hives' Syrup," was born a full grown therapeutist at Philadelphia (April 1842).

The advertising portion of the journals seems to be considered by some editors as beyond the jurisdiction of medical ethics. It is to this opinion, or more probably to mere inadvertence, that the physician owes the privilege of reading before he opens one of the prominent journals, the notice of one Dr. Beach's Medical Works, "for which he has received numerous gold medals from the various crowned heads of Europe, and diplomas from the most learned colleges in the Old World." (July, 1847.)

In connection with periodical literature, it seems proper to allude to the "Introductory Lectures," of which so large a number are delivered and printed annually. They must not be judged too harshly, for they are delivered to young men, who like high season-

ing, and they naturally partake somewhat of the character of advertisements. Many of them are agreeable and appropriate performances, but others are open to severe comment. Turgid and extravagant attempts at eloquence, a fondness for effete Latin quotations, a parade of scholastic terms where simple ones only are called for, an inclination to adopt the cant phrases of political and literary writers, are the common faults of these productions. The physician should remember, that his style has no more occasion for pomp of oratory and glitter of epithet, than his costume for the gold lace and feathers which belong to the military chieftain. Nothing is more offensive than an attempt to tell that which should be said plainly and decently, in high flown language. It vitiates the taste of the student who listens to it or reads it, and exposes the profession to derision from those who cannot value the important truths disguised by such ill chosen finery.

Here, too, a few words may be added on the subject of the THESES, of which many hundreds are annually presented by the candidates for graduation. It is to be feared, that they would compare ill with those produced in the great European schools, very many of which have taken their place as permanent scientific documents, and heralded the future celebrity of their authors. Yet a more careful attention would probably show, that some Theses are brought forward every year which would do credit to the institutions from which they proceed, and to the country. Such a dissertation as that of Dr. Kane, on Kiesteine, or that of Dr. Porcher on the Plants and Ferns of St. John's (S. C.), forms the best possible introduction of a young man into the ranks of the profession, and is an actual accession to the treasures of science. It has occurred to the Committee, that some measures might be taken to elevate the character of these exercises, and encourage a generous emulation throughout the country in respect to their merit.

In different parts of the country prizes have been frequently offered for the best dissertations upon certain specified subjects. Many interesting essays have been called out in this way, which would probably never have seen the light but for some such active stimulus. In some instances, a permanent fund is devoted to this object. One of the best known of these endowments, is the Boylston Prize Fund, which has offered and generally awarded premiums to the amount of a hundred dollars annually, for a long series of years. The Fisk Prize Fund of Rhode Island, is a more recent foundation of similar character.

The original works on Medical Subjects produced in this country are almost all of them general treatises, intended especially for students. The national practical tendency shows itself in the best of these to good advantage. To contrast the American mind and its prototype, the English, with that of some other nations, it might be said that the Frenchman considers most in disease what there is to see about it, the German what there is to think about it, the Anglo-American what there is to do about it. The object of these works sufficiently accounts for their generally elementary character, and for the fact that few of them pretend to do more than serve a temporary purpose, and then give place to newer compilations. A few exceptions have already been referred to as of more permanent value, but it must be confessed that the part of our present medical literature most likely to reach posterity is in the form of fragmentary contributions to science rather than of any more formally and elaborately organized productions. The *Translations* made in this country are, with few exceptions, from the French, and have naturalized many of the best practical authors of that country. Many of the higher class of works remain yet untouched; those of Rayer on Diseases of the Kidneys, and of Grisolle on Pneumonia, may be mentioned as examples. The three great Dictionaries have proved too formidable for transfusion, and the incomparable *Compendium de Médecine*, a work which has more erudition and more actual intellectual outlay employed in its construction than would furnish forth twenty "Practices of Medicine," is absolutely ignored, so far as the Committee are aware, with a single exception, by all the writers of this country.

It cannot be denied that the great *forte* of American Medical scholarship has hitherto consisted in "*editing*" the works of British authors. The Committee are not disposed to disguise the fact that this business has been carried on in a very cheap and labor-saving fashion. A tacit alliance between writers and publishers has infused the spirit of trade into the very heart of our native literature. The gilt letters of the book-binder play no inconsiderable part in the creation of our literary celebrities. Sometimes the additions by the "American Editor" have been real and important, oftener nominal and insignificant. The following calculation of the proportion added to different recently published works, taken at random, will show the average amount of material so contributed. The Editor's proportion was, in two instances, one-fourth; in two more one-eighth; in one one-ninth; in another one-tenth; in others one-fifteenth, one-seventeenth, one-nineteenth, one-twentieth, one-twenty-eighth, one-fifty-

ninth, one-sixty-fifth, one-ninetieth, one hundred and seventh, and, in one instance, such a sprinkling as a single penful of ink might furnish, and leave enough to spare for a flourishing autograph. The fairest fruits of British genius and research are shaken into the lap of the American student, and the great danger seems to be, that in place of the genuine culture of our own fields, the creative energy of the country shall manifest itself in generating a race of *curculios* to revel in voracious indolence upon the products of a foreign soil!

In viewing the great branches of Anatomy, Physiology, Surgery, Obstetrics, and Practical Medicine, it will be seen at once that the four first are essentially the same to the American student that they are to his European models. As might be expected in a new country, the practical branches have almost exclusively occupied the attention of the professional student. The contributions to Anatomy and Physiology have been few, and for the most part insignificant compared with those which have emanated from the countries of Hunter, of Bichat, and of the Meckels. Of all the practical branches, Operative Surgery, a most important and attractive pursuit, but still, as its name (chirurgery) literally imports, a *handicraft*, has been the favourite, and whatever credit belongs to boldness, ingenuity, and dexterity, may be claimed, without fear of dispute, for its American practitioners.

But the higher problems of medicine have been, as yet, comparatively imperfectly investigated. Two fatal influences have acted not merely on medical science, but on all natural science in this country. The first is the habit of indolence generated by the easy acquisition of a foreign literature which seems to answer every necessary purpose. The second is the habit of negligence which springs from the curious fact of a constant parallelism, which is not identity, in most natural objects and phenomena of the New World, with something of the older continent. In literature this has enfeebled the relation between words and realities; in science it has induced the same laxity and incoherence. The American constitution must be studied by itself—it differs from the European in outline, in proportions, in the obvious characters of the skin and hair—why should it not differ in the susceptibilities which, awakened, become disease? The American climate remoulds the European, and casts a new die of humanity —will it not generate causes of disease different from those of the Old World? Over this virgin soil a new Flora is weaving her long web of tapestry, flowing from the lichens of Katahdin to the myrtles of Cape Sable; is there no undiscovered healing in any of its leafy and

blossoming folds? Here is the true field for the American medical intellect; not to set English portraits of disease in American frames; not to trust for immortality to a little more or less of manual adroitness or questionable hardihood; but to co-operate with that fast-gathering band of students who, in other departments of science, are studying what nature has done with her American elements, and teach us what disease is here, how it is generated, and what kindly antidotes have been sown in the same furrows with its fatal seeds.

The Committee are not prepared to propose to the Association any special organized mode of operation for encouraging and maintaining a national literature of our own. It is by indirect means rather than by direct contrivances that this desirable object is to be promoted; by elevating the standard of education; by the stern exclusion of unworthy articles from Medical Journals; by the substitution of original for parasitical authorship; and by introducing such a tone of general scholarship and scientific cultivation that the finer class of intellects may be drawn towards the ranks of the medical profession.

OLIVER WENDELL HOLMES,
ENOCH HALE,
G. C. SHATTUCK, Jr.,
D. DRAKE,
JOHN BELL,
AUSTIN FLINT,
W. SELDEN.

G.

REPORT OF THE COMMITTEE ON PUBLICATION.

The Committee on Publication respectfully

REPORT,

That they have had printed two thousand five hundred copies of the Proceedings of the National Medical Conventions, held in New York, May, 1846, and in Philadelphia, May, 1847, with the several reports presented to the latter body.

Fifteen hundred copies of these have been distributed among the members of the Convention of 1847, two hundred copies were sent to the editors of the various Medical Journals in this country and abroad, and to public libraries and societies, and eight hundred remain on hand.

The Reports presented to the Convention of 1847 having been printed at the expense of the Philadelphia delegation, and the type kept standing, a portion of the expense of printing the proceedings has been saved to the Association.

The whole cost of printing and binding the Proceedings is $413 40.

The Committee beg leave to acknowledge the important services rendered by Messrs. Lea and Blanchard to the Association. These gentlemen have forwarded by mail to every member of the Convention of 1847 one copy of the Proceedings, and, through their agents, as far as practicable, seven additional copies:—they have also distributed copies to the different Medical Journals, &c., free of all expense to the Association.

The Treasurer's report, herewith presented, has been examined by the Committee, and found to correspond with the vouchers.

All which is respectfully submitted.

ISAAC HAYS,
ALFRED STILLÉ,
JOHN R. W. DUNBAR.

Baltimore, May 2d, 1848.

G.—1.

The Treasurer of the Association respectfully

REPORTS,

That he has received from Dr. J. Rodman Paul		$173 60	
The above sum is the balance of the amount received by him from one hundred and ninety-three members of the Convention of 1847, on account of assessment $3 00 each, four of the number having paid $5 00, (*see* G.—2,) making - - - - -	$587 00		
Less cost of printing proceedings -	413 40		
	$173 60		
That he has received in account of assessment of members of Convention of 1847		6 00	
			$179 60
That he has paid for printing memorial to the legislatures of the different states, as ordered by Convention of 1847 - - - - -		$6 00	
For Treasurer's book - - - - -		2 50	8 50
Leaving on hand a balance of - - - -			$171 10

ISAAC HAYS.

G.—2.

List of the names of those who have paid the assessment for 1847, *arranged according to delegations.*

New Hampshire.

New Hampshire Medical Society.	Josiah Crosby	3 00
	Amos Twitchell	3 00
	Francis P. Fitch	3 00
	Abraham O. Dickey	3 00
	Josiah Bartlett	3 00
Dartmouth Med. College.	Edward E. Phelps	3 00

Vermont.

Vermont Med. College.	Alonzo Clark	3 00
Vermont Med. Society.	Charles Hall	3 00
Faculty of Castleton Med. College.	T. M. Markoe	3 00

Massachusetts.

Massachusetts Medical Society.	Z. B. Adams	3 00
	A. L. Peirson	3 00
	Wm. Bridgman	3 00
	Samuel Parkman	3 00
	Geo. C. Shattuck, Jr.	3 00
	John Jeffries	3 00
	Stephen W. Williams	3 00
	Elisha Huntingdon	3 00
	J. V. C. Smith	3 00
Middlesex District Med. Society.	N. Cutler	3 00
	J. W. Graves	3 00
Faculty of Med. of Harvard Univ.	O. W. Holmes	3 00

Rhode Island.

Rhode Island Med. Society.	Usher Parsons	3 00
	Theo. C. Dunn	3 00

Connecticut.

Medical Institution of Yale College.	Jonathan Knight	3 00
	Eli Ives	3 00
Connecticut Medical Society.	George Sumner	5 00
	N. B. Ives	3 00
	Johnson C. Hatch	3 00
New Haven Med. Association.	E. H. Bishop	3 00

New York.

College of Physicians and Surgeons in the city of New York.	Alex. A. Stevens	3 00
	C. R. Gilman	3 00
	Robt. Watts, Jr	3 00
New York State Medical Society.	John Stearns	3 00
	Jas. R. Manley	3 00
	Joel A. Wing	3 00
	Thos. W. Blatchford	3 00
	Morgan Snyder	3 00
	John M'Call	3 00
	A. Willard	3 00
	P. H. Hard	3 00
	Lake I. Tefft	3 00
	Geo. W. Bradford	3 00
Rensselaer Co. Med. Society.	Simeon A. Cook	3 00
Troy Med. Association.	Alfred Wotkyns	3 00
Erie Co. Med. Association.	Bryant Burwell	3 00
Cortland Med. Society.	Frederick Hyde	3 00
New York Medical and Surgical Society.	Jno. A. Swett	3 00
	J. G. Adams	3 00
	Abram Dubois	3 00
	Pliny Earle	3 00
Med. Dept. Univ. of Buffalo.	Austin Flint	3 00
Albany Med. College.	Alden March	3 00
	James M'Naughton	3 00
New York Pathological Society.	J. N. Metcalfe	3 00
	T. M. Halstead	3 00
	Israel Moses	3 00
New York Hospital.	John H. Griscom	5 00
	John Watson	3 00

Med. Society of the city and county of New York.	Thomas Cock	3 00
	Albert Smith	3 00
	Jos. M. Smith	3 00
	Joel Foster	3 00
	Wm. M. Blakeman	3 00
	A. G. Thompson, Jr	3 00
	Isaac Greene	3 00
	J. R. Van Kleek	3 00
	Saml. T. Hubbard	3 00
	John D. Russ	3 00
New York Academy of Medicine.	F. Campbell Stewart	3 00
	Jas R. Wood	3 00
	H. D. Bulkley	3 00
	D. M. Reese	3 00
	W. H. Van Buren	3 00
	Jas. O. Pond	3 00
	A. B. Stout	3 00
	S. C. Foster	3 00
	J. L. Phelps	3 00
	E. Macfarlan	3 00

New Jersey.

Medical Society of New Jersey.	Lyndon A. Smith	3 00
	E. J. Marsh	3 00
	F. S. Schenck	3 00
	Wm. Pierson	3 00
	J. F. Garrison	3 00
	Joseph Parrish	3 00
	Richd. M. Cooper	3 00

Pennsylvania.

College of Physicians of Phila.	Isaac Hays	3 00
	J. Rodman Paul	3 00
	Saml. Jackson	3 00
	Alfred Stillé	3 00
	Wm. Pepper	3 00
	Geo. Fox	3 00
	J. Wilson Moore	3 00
	Caspar Morris	3 00
	C. D. Meigs	3 00
	D. F. Condie	3 00
	R. La Roche	3 00

University of Pennsylvania.	N. Chapman	3 00
	S. Jackson	3 00
	Geo. B. Wood	5 00
Philadelphia Med. Society.	John Bell	3 00
	G. W. Norris	3 00
	Francis West	3 00
	W. Ashmead	3 00
	B. H. Coates	3 00
	H. Bond	3 00
	L. Rodman	3 00
	G. Emerson	3 00
Med. Institute of Philadelphia.	John Neill	3 00
Jefferson Medical College.	Franklin Bache	3 00
Pennsylvania College.	H. S. Patterson	3 00
	John Wiltbank	3 00
	W. L. Atlee	3 00
Franklin Med. College.	Jas. B. Rogers	3 00
	Levin S. Joynes	3 00
Phila. College of Medicine.	Jesse R. Burden	3 00
	James M'Clintock	3 00
Northern Med. Association of Philadelphia.	Wilson Jewell	3 00
	B. S. Janney	3 00
	M. B. Smith	3 00
	John Uhler	3 00
	A. Naudain	3 00
	Isaac Remington	3 00
	H. J. Brown	3 00
	J. R. Bryan	3 00
	Wm. S. Haines	3 00
	Wm. Maybury	3 00
	A. C. Hart	3 00
	J. D. Stewart	3 00
Lancaster city and county Medical Society.	Saml. Humes	3 00
	Saml. Duffield	3 00
	J. L. Atlee	3 00
	Geo. B. Kerfoot	3 00
	Jno. K. Eshleman	3 00
	Henry Carpenter	3 00
Med. Soc. of Montgomery County.	Geo. W. Thomas	3 00
	Hiram Corson	3 00
	John S. Foulke	3 00

Centre Co. Med. Society.	Wm. J. Wilson	3 00
	John M'Coy	3 00
Lebanon Co. Med. Society.	J. Breitenbach	3 00

Delaware.

Medical Society of the State of Delaware.	J. W. Thomson	3 00
	James Couper	3 00
	W. N. Hamilton	3 00
	W. W. Morris	3 00
	Wm. Cummins	3 00
Med. Association of the city of Wilmington.	Geo. W. Baker	3 00

Maryland.

Med. and Chirurg. Faculty of Maryland.	G. C. M. Roberts	3 00
	J. R. W. Dunbar	3 00
	Alex. C. Robinson	3 00
	J. H. Briscoe	3 00
	Joel Hopkins	3 00
	P. Wroth	3 00
	Jas. Bordley	3 00
	Sol. Jenkins	3 00
Association of Med. Faculty of Frederick city.	Saml. Tyler	3 00
Washington University of Baltimore.	Chas. Bell Gibson	3 00
	W. T. Leonard	3 00
Faculty of Physic of University of Maryland.	Wm. Power	3 00

District of Columbia.

Med. Society of Dist. Columbia.	F. Howard	3 00
	Harvey Lindsly	3 00
Med. Department Columbian College.	Thomas Miller	3 00
	Joshua Riley	3 00

Virginia.

Medical Convention of Virginia.	B. R. Welford	3 00
	H. H. M'Guire	3 00
	J. L. Cabell	3 00
	Mathew W. Houston	3 00
	Hardin Massie	3 00
	Wm. Selden	3 00
	G. L. Corbin	3 00
	Daniel Trigg	3 00

Medical Society of Virginia.	Robt. W. Haxall	3 00
	J. N. Broocks	3 00
	Carter P. Johnson	3 00
Petersburg Med. Faculty.	J. F. Peebles	3 00
Med. Society Fredericksburg.	Geo. F. Carmichael	3 00

South Carolina.

Med. Society of S. Carolina.	Wm. T. Wragg	3 00
	James P. Jervey	3 00
Med. College of the State of S. C.	James Moultrie	5 00

Georgia.

Georgia Med. Society.	R. D. Arnold	3 00
	Johnson B. Tufts	3 00
Med. College of Georgia.	L. A. Dugas	3 00
	J. P. Garvin	3 00

Mississippi.

Mississippi State Med. Society.	G. Keirn	3 00

Louisiana.

Med. Department University of Louisiana.	John Harrison	3 00
	Wm. M. Carpenter	3 00

Missouri.

Med. Dep. St. Louis University.	A. Litton	3 00
St. Louis Ass. Phys.	D. E. Meade	3 00

Illinois.

Rush Med. College.	Jos. C. Frye	3 00

Michigan.

Mich. State Med. Society.	James L. Peirce	3 00

Ohio.

Med. Chirurg. Soc. Cincinnati.	David Judkins	3 00

Kentucky.

Med. Dep. Trans. University.	Thos. D. Mitchell	3 00
	S. Annan	3 00

Tennessee.

Med. Soc. State of Tennessee.	A. H. Buchanan	3 00

H.

CODE OF ETHICS ADOPTED BY THE PHILADELPHIA COLLEGE OF PHARMACY.

Pharmacy being a profession which demands knowledge, skill, and integrity on the part of those engaged in it, and being associated with the medical profession in the responsible duties of preserving the public health, and dispensing the useful though often dangerous agents adapted to the cure of disease, its members should be united on some general principles to be observed in their several relations to each other, to the medical profession, and to the public.

The *Philadelphia College of Pharmacy* being a permanent, incorporated institution, embracing amongst its members, a large number of respectable and well educated apothecaries, has erected a standard of scientific attainments, which there is a growing disposition on the part of candidates for the profession to reach; and being desirous, that in relation to professional conduct and probity, there should be a corresponding disposition to advance, its members have agreed upon the following principles for the government of their conduct:

1st. *The College of Physicians of Philadelphia* having declared that any connection with, or moneyed interest in apothecaries' stores, on the part of physicians, should be discountenanced; *we in like manner consider* that an apothecary being engaged in furthering the interests of any particular physician, to the prejudice of other reputable members of the medical profession, or allowing any physician a percentage or commission on his prescriptions, is unjust toward that profession and injurious to the public.

2d. As the diagnosis and treatment of disease belong to the province of a distinct profession, and as a pharmaceutical education does not qualify the graduate for these responsible offices, we should,

where it is practicable, refer applicants for medical aid tō a regular physician.

3d. As the practice of Pharmacy can only become uniform, by an open and candid intercourse being kept up between apothecaries, which will lead them to discountenance the use of secret formulæ, and promote the general use and knowledge of good practice, and as this College considers that any discovery which is useful in alleviating human suffering, or in restoring the diseased to health, should be made public for the good of humanity and the general advancement of the healing art,—no member of this College should originate or prepare a medicine, the composition of which is concealed from other members, or from regular physicians.

Whilst the College does not at present feel authorized to require its members to abandon the sale of secret or quack medicines, they earnestly recommend the propriety of discouraging their employment, when called upon for an opinion as to their merits.

4th. The apothecary should be remunerated by the public for his knowledge and skill, and in his charges should be regulated by the time consumed in preparation, as well as by the value of the article sold; although location and other circumstances necessarily affect the rate of charges at different establishments, no apothecary should intentionally undersell his neighbours with a view to their injury.

5th. As medical men occasionally commit errors in the phraseology of their prescriptions, which may or may not involve ill consequences to the patient if dispensed, and be injurious to the character of the practitioner, it is held to be the duty of the apothecary, in such cases, to have the corrections made, if possible, without the knowledge of the patient, so that the physician may be screened from censure. When the errors are of such a character as not to be apparent, without the knowledge of circumstances beyond the reach of the apothecary, we hold him to be blameless in case of ill consequences, the prescription being his guarantee, the original of which should always be retained by the apothecary.

6th. Apothecaries are likewise liable to commit errors in compounding prescriptions,—*first*, from the imperfect hand-writing of the physician; *secondly*, owing to the various synonyms of drugs in use, and their imperfect abbreviation; *thirdly*, from the confusion

which even in the best regulated establishments may sometimes occur, arising from press of business; and *fourthly*, from deficient knowledge or ability of one or more of the assistants in the shop, or of the proprietor.

We hold that in the first three instances named, it is the duty of the physician to stand between the apothecary and the patient, as far as possible; and in the last that he should be governed by the circumstances of the case—drawing a distinction between an error made by a younger assistant accidentally engaged, and a case of culpable ignorance or carelessness in the superior.

7th. As the apothecary should be able to distinguish between good and bad drugs, in most cases, and as the substitution of a weak or inert drug for an active one, may, negatively, be productive of serious consequences—we hold that the intentional sale of impure drugs or medicines, from motives of competition, or desire of gain, when pure articles of the same kind may be obtained, is *highly culpable*, and that it is the duty of every honest apothecary or druggist to expose all such fraudulent acts as may come to his knowledge. But in reference to those drugs which cannot be obtained in a state of purity, he should, as occasion offers, keep physicians informed of their quality, that they may be governed accordingly.

8th. As there are many powerful substances that rank as poisons, which are constantly kept by apothecaries, and prescribed by physicians, and which are only safe in their hands, as arsenious acid, vegetable alkaloids, ergot, cantharides, etc.—we hold that the apothecary is not justified in vending these powerful agents indiscriminately to persons unqualified to administer them, and that a prescription should always be required, except in those cases when the poisons are intended for the destruction of animals or vermin—and in these instances only with the guarantee of a responsible person. And we hold that when there is good reason to believe that the purchaser is habitually using opiates or stimulants to excess, every conscientious apothecary should discourage such practice.

9th. No apprentice to the business of apothecary should be taken for a less term than four years, unless he has already served a portion of that time in an establishment of good character. Apprentices should invariably be entered as matriculants in the school of pharmacy, and commence attendance on its lectures at least two

years before the expiration of their term of apprenticeship; and as the progress of our profession in the scale of scientific attainment must depend mainly upon those who are yet to enter it—it is recommended that those applicants who have had the advantage of a good preliminary education, including the Latin language, should be preferred.

DANIEL B. SMITH, *President.*

SAMUEL F. TROTH, } *Vice Presidents.*
CHARLES ELLIS, }

Attest, DILLWYN PARRISH, *Secretary.*

I.

A STATEMENT IN RELATION TO THE UNITED STATES NAVAL MEDICAL CORPS.

Believing it to be in accordance with the objects of this Association, we beg leave to lay before it certain facts in relation to that portion of the medical profession associated with the naval service, and which we have the honour to represent in the present assembly.

From the large number of persons who appear before the Naval Medical Examining Boards, and from the small proportion who are successful, it has been intimated that influence, independent of qualification, is essential to success. Such an impression is of course adverse to any efforts the Government Boards may make to elevate the profession, and its correction is due not only to the Boards, but to the profession at large.

The aid of influential friends is not necessary even to obtain a permission to appear before the Boards, but it is granted to all within the prescribed ages, disposed to enter the field of competition, without question as to political alliance or social position, but, with the understanding that a limited number of appointments is to be made, and those alone can be successful who are found to be best qualified.

The Boards vary as to their individual composition: the selection of their members being made from such medical officers, sufficiently old in the service, as the public interests permit to be taken, from time to time, from other duties; and they are convened under a precept containing the following injunction:

"The attention of the Board will be directed to moral character, as well as to scientific and other attainments; and it will be its duty to make the examination full, minute, and rigid."

From the limited number of medical officers, and the want of allowance for inefficient members in their corps, it becomes both the duty and interest of Boards to select only such as are physically competent to their duties: hence, many may be set aside for essen-

tial reasons other than professional incompetency. Again, duties in the naval medical service require a practical knowledge upon certain branches, not attained by many otherwise well informed in their profession. For instance—medical officers on board ship are often required to be their own apothecaries; and, in foreign countries to select their medicines, when they must depend upon their practical acquaintance with drugs to select those of good quality. Deficiency in such knowledge excludes many.

For admission into the naval service, a fair preliminary education, and a knowledge of the branches strictly professional, are the nominal requirements, but from the amount of competition, higher attainments are necessary to secure success. Professional acquirements being equal, those persons would be selected who possessed in addition a knowledge of collateral sciences and of languages: relative position, a matter of importance, being decided according to the amount of professional and general information of the successful candidates. The mode of examination is as follows: in the first place the applicant is required to reply to the following

"CIRCULAR TO CANDIDATES.

"For the information of the Board, you will state, in your own handwriting, the place of your birth, your age, the state of which you are a citizen, and the names of the institutions in which your general education has been acquired. If a graduate of arts, please state from what college you received your diploma. Besides English, what languages have you studied? If you have studied natural history, please state what branches.

"State the name of your medical preceptor, and the time devoted by you to the study of medicine. If a graduate, of what institution? What period of time have you devoted to practical anatomy or dissection? What opportunities have you had to witness the practice of medicine and surgery? What opportunity, if any, have you had to become acquainted with pharmacy and the physical properties of drugs?

"You will state, on your honour, whether you are obnoxious to any hereditary disease whatever; especially, whether any of your immediate family has suffered from pulmonary disease, epilepsy, insanity or paralysis: and you will also state whether your general health is good, and whether you are free from constitutional disease

and local affection, such as hernia, &c. You will furnish satisfactory evidence that your moral and social habits and character are good."

The reply to this circular not only furnishes the Board with the information asked by it, but gives some information as to the facility of composition and knowledge of orthography possessed by the candidates; and upon these points many fail. If the reply is satisfactory, the candidate is then furnished with a single sheet of foolscap, and a professional subject, upon which he is required to write in an apartment adjoining that of the Board's session.

The examinations upon surgery, materia medica and pharmacy, are partially practical—the candidate being required to apply various dressings and apparatus, to designate the medicines and preparations set before him unlabelled, and to write and compound prescriptions.

Before a recent Board, one gentleman defined a lotion to be "a kind of application," and an evaporating lotion "one which does not evaporate." Another confessed his ignorance of the freezing and boiling points of water, and contended that knowledge upon such subjects was useless. One candidate determined castor oil to be the "oil of castor, an animal." Another located the solar plexus in the sole of the foot. All these were graduates.

The foregoing facts will, we think, sufficiently account for a large rejection, without invoking the inference of political disqualification.

In contradiction to the idea of the power of other influences than those of professional qualification, the results of the examinations show those to be most successful whose energies have been developed and faculties strengthened under a continued struggle with necessity and limited means; whilst too many, aided by influential friends, possessed of ample means and all the facilities these control, have been found unfaithful servants in the improvement of the talents placed at their disposal.

The medical corps of the navy, in its insulated position, has had devolved upon it the unpleasant responsibility of advocating against contending influences, its own interests, and the claims of the medical profession to respectability, assailed through the corps.

Until recently, it has been left as a portion of a military body, without any defined position, being dependent for its social standing, and the respect awarded its members, upon the individual and peculiar views of military superiors and associates: these were too frequently annoying to the medical officers and derogatory to the profession of which they are members.

After the long-continued and arduous efforts of the medical officers, the executive became assured of the injustice of their position, and by a general order issued August, 1846, they were assimilated in rank with medium classes of their military brethren; and certainly not placed in a higher comparative position than the profession of medicine can justly claim. The "order" merely defines position and confers no military authority. Opposition has, however, been made to this arrangement by a portion of the line, and at its instigation, an inquiry instituted upon the floor of Congress, with the view, it is believed, to an attempt to revoke the position assigned medical officers in the navy.

Such is the existing state of interests, which we feel it our duty, through the medium of this Association, to bring to the notice of the profession of which we form a small and isolated portion.

WM. MAXWELL WOOD, *Surg. U. S. N.*,
NINIAN PINKNEY, *Surg. U. S. N.*,
Delegates to the Nat. Med. Association, from the Naval Med. Corps.

J.

COMMUNICATION ON HYGIENE, FROM THE MEDICAL DEPARTMENT OF THE NATIONAL INSTITUTE.

The Medical Department of the National Institute, at a sitting held May 1845, appointed a committee to inquire into the sanitary condition of the United States, with very extensive powers. The committee, when organized, consisted of:—

Dr. James Wynne, *Chairman.*

*Dr. Thomas Sewall, *Prof. of Medicine in the National Medical College, and Chairman of the Medical Department.*

Dr. J. M. Thomas, *Prof. of Institutes of Medicine in the National Medical College, and Vice-Chairman of Medical Department.*

Dr. Baile, of Washington, *Surgeon U. S. Navy, and* *Dr. Marcus Buck, *Secretary.*

The committee thus appointed, from time to time issued circulars to members of the medical profession, and others in different parts of the United States, soliciting information on the various causes supposed to exercise a prejudicial influence on health, and requested aid in the development of this important inquiry. Numerous replies have been received, and much valuable information obtained by the committee; but, notwithstanding its most strenuous endeavours, it has, up to the present moment, failed to collect such a minute, and at the same time, extended series of observations, as to enable it to make an accurate report based on such authority as it deemed due to so vital an inquiry.

Among others, two prominent causes tended greatly at the commencement of its labours, to retard its progress: 1st. The general apathy existing even in the minds of medical men on the subject of hygiene; and 2d. The favourable opinions entertained by almost every one addressed by the committee, of the healthiness of his own particular locality. The committee, and the department which

* Since deceased.

created it, have had the gratification to witness the first of these causes yielding to an exceeding solicitude on the part of the members of the medical profession to discuss and develop this question, so that at the present hour there is scarcely a medical journal, society, or well educated man, who is not fully aroused to its importance. For much of this newly inspired zeal, they are doubtless indebted to the preliminary efforts of the American Medical Association, which has thus exhibited in its very inception, the great advantages which are likely to flow from its continuance, and the department indulges the hope that under its auspices the sanitary condition of the union may be fully developed, human life prolonged, and the desolations of disease curtailed.

Before, however, any considerable advances can be made, it will be necessary to make medical men aware of the operations of the injurious agencies constantly affecting human life, even in the most favoured localities, because until they are prepared to admit the existence of these evils, they will not be in a state of mind to detect and scrutinize them with sufficient accuracy to render their observations of any practical utility. The simultaneous movement in England, which has been attended with developments of the most extraordinary character, has, in some degree, prepared the way for these admissions; but the department has reason to know that the medical profession in this country, as a general rule, has many preconceived prejudices to overcome, in order to prepare it to enter into the inquiry with that spirit of philosophic research, which can alone make its deductions practically useful.

The department would not presume to dictate to this highly honorable body, but as the pioneer in this sanitary movement, it is exceedingly desirous of interchanging sentiments with an association, which is destined hereafter to play so important a part in the development of a question in which they both take so deep an interest,—a question second in importance to none other which can occupy the deliberations of either.

The United States may be considered as a country in which no legislative enactments exist, regulating its sanitary condition, for with the exception of some municipal regulations, forced from the necessity of circumstances upon the large cities, and a few of the first steps of legislation in one or two of the States of the Union, each individual is permitted to exercise his own free will in regard to hygienic measures, too frequently either from ignorance of its laws, or cupidity, at the expense of great sacrifices of human life.

Society, whilst it possesses advantages, is likewise attended with evils, the most prominent of which is, the generation of causes detrimental to health, and destructive to life; and the more compact society becomes, *cæteris paribus*, the more manifestly these causes develop themselves; hence densely populated cities present the greatest complication of these evils, and those most difficult of eradication. The main question, however, which presents itself to the inquirer into the subject of human health, is not what state of society is most favourable to its continuance, but what measures may be resorted to for the purpose of mitigating the evils which its existing state induces.

Many of these causes operating directly on the human body, inducing disease and excessive mortality, are sufficiently obvious. No one will pretend to deny that deficient ventilation, improper drainage, accumulation of filth, and a scanty supply of water, are all in themselves powerful predisposing causes of disease, and that when conjoined, they cannot fail to produce a high rate of mortality. This is the theory; but is the practice in accordance with this theory? The department would appeal to the experience of every member of this association in justification of the position that it is not, and that there is not a populous town in this country, placed under such sanitary regulations as to insure the inhabitants against the operation of these causes. Dr. T. Southwood Smith, in his examination before the Committee of the House of Commons, declares, that "in every district in which fever returns frequently, and prevails extensively, there is uniformly bad sewerage, a bad supply of water, a bad supply of scavengers, and a consequent accumulation of filth, and I have observed this to be so uniformly and generally the case, that I have been accustomed to express the fact in this way. If you trace down the fever districts on a map, and then compare that map with the map of the commissioner of sewers, you will find that wherever the commissioners of sewers have not been, there fever is prevalent; and, on the contrary, wherever they have been, there fever is comparatively absent.* "And again," he adds, "every day's experience convinces me that a very large proportion of these evils is capable of being removed; that if proper attention were paid to sanitary measures, the mortality of these districts would be most materially diminished; perhaps in some places one-third; in others, one-half."†

* First Report of Com. on Large Towns, p. 69. † Ibid.

Dr. E. Rigby, senior physician to the General Lying-in-Hospital in the York-road, Lambeth, in answer to the sewer commissioners, states that "Puerperal fever still continued to make its appearance from time to time, and occasionally with great severity. As the physicians were dissatisfied with the existing means of ventilating the wards to such an extent as could be done with safety to the patients, and as it was found that, unless quickly changed, the air becomes speedily loaded with effluvia, it was deemed advisable in April, 1842, to adopt Dr. Reid's plan of ventilation.

"When this new plan came into operation, much opposition was experienced from the female attendants, and great difficulty in preventing them from closing the different valves for admitting fresh, and emitting foul air. In November, 1842, during a moist and unusually warm state of the atmosphere for that season of the year, I found, on visiting the hospital one evening, that the air of one ward, which had its full number of patients, all of whom had been recently delivered, was exceedingly close and oppressive, and the thermometer at 75°, and it was stated to have been even so high as 78°; the air had a decidedly sour smell, and was evidently much loaded with effluvia. This improper state of things had been produced by closing the valves, and cutting off the ventilation in defiance of my strict orders to the contrary. I strongly remonstrated, declaring that puerperal fever would appear in twenty-four hours. In eighteen hours I was called to see a woman with symptoms of the disease in that ward; she died, and several other women in the same ward were also attacked. In July two of my own pupils became house surgeons to the establishment, gentlemen in whom I placed the fullest confidence, and who carried out my orders respecting the ventilation of the wards, in spite of much opposition and personal annoyance. From that moment we have not had a case of puerperal fever; patients have been admitted broken down by poverty and misery, severe and dangerous labours have occurred amongst them, and there has been every possible variety of weather, but up to the present time, since July, there has not occurred the slightest trace of puerperal fever."*

The testimony of these two gentlemen, who stand deservedly high in their different branches of the profession, is here adduced, in order to show that two of the most alarming and fatal scourges of humanity, typhus and puerperal fevers, are intimately connected with, and in

* First Report of Com. of Large Towns, p. 413.

a great degree dependent upon, accumulations of filth, and impure atmosphere, and that their ravages are immediately under the control of sanitary measures, and may be checked by a faithful compliance with proper legislative enactments.

But these powerful elements of disease do not always present themselves to the consideration of the medical man in forms thus concentrated and fatal. They may occur singly or in subtle forms, requiring great nicety of discrimination, and laboured research to detect them, and under these circumstances, it is impossible for the physician who has not fully acquainted himself with the subject, either to discover or apply the means necessary for their removal. The merest tyro in his profession is enabled to decide upon a strongly marked case of disease, exhibiting decided symptoms, but it requires the master of his art to discover through complications which mark the ailment, the true causes of aberration from health. If this be true in relation to the manifestations of disease in the human body, with how much greater force may it not be applied to the discrimination of those subtle agents, which, like the winged messenger of death, float unseen around us, and only manifest themselves in their effects.

It would be taking an exceedingly narrow view of this subject to confine the operation of these pernicious agents to the production of the two forms of fever already mentioned, or indeed all forms of fever, for there is scarcely a type of disease to which the human body is liable, that may not be directly induced, or at least sustained by them, and perhaps the evil influences exerted by the indirect action of these deleterious causes, are more to be dreaded than those more direct and fatal. When not sufficiently concentrated to produce fever, they may act by deranging the function of one or another of the organs of the body, and thus destroy its power to resist disease from other sources. Disorders of the digestive organs sufficiently numerous in themselves, occasioned by these causes, by enfeebling the body, render it susceptible to alternations of temperature, and thus death occurs from inflammation of the air-tubes, consumption, and kindred causes. It is scarcely possible to estimate the amount of mortality thus induced by the indirect action of these poisonous agencies.

In view of the immense and growing importance of this subject, the Medical Department of the National Institute would recommend to the American Medical Association—

1*st*. The establishment of a permanent committee on hygiene.

2*d*. A recommendation to the various State Legislatures to establish throughout the Union uniform systems for the registration of births, deaths, and marriages.

JAMES WYNNE, M.D.,
JOHN M. THOMAS, M.D.,

Delegates from the Medical Department of the National Institute to the American Medical Association.

K.

Statement relative to the extent to which drugs are falsified, particularly with a view to their sale in the United States. By T. O. Edwards, M. D., *of Ohio, Chairman of the special committee of the House of Representatives to which was referred the subject of the importation of worthless, adulterated and misnamed drugs.**

The College of Pharmacy of New York have, for a series of years, called public attention to the subject of the importation of worthless, adulterated and misnamed drugs, medicines and chemical preparations. In a circular, they state "that large quantities of sophisticated and misnamed chemical and pharmaceutical preparations are daily imported, not only to the injury of the custom house revenue and of the honest importer, but of dangerous effect upon the health and lives of all who require the aid of medicines, such as they purport to be, throughout the country.

"That, with some unprincipled foreign manufacturers, aided and abetted by dealers of a kindred stamp in this country, it is a regular and systematic business to make different qualities of various medical preparations for the American market; the better kinds for the Atlantic cities, and others, very much inferior, 'for the west,' meaning, thereby, our western States. The latter are generally altogether unlike what they purport to be; are quoted at about half price, and are unfit for any use whatever," &c.

The memorial of the Philadelphia College of Pharmacy sets forth, "that one of the chief objects of the establishment of their institution was 'to direct attention to the quality of drugs brought into the market,' with a view to correct the evils arising from the introduction and sale of spurious and sophisticated articles; that they have, from time to time, by a proper education of young men in

* The courtesy of Dr. Edwards has enabled the Committee on Publication to present this Paper, which embodies all of the strictly medical portion of the Report made by him to the House of Representatives. It is proper to state, that the Memorial of the American Medical Association (see K.—1) was referred to and contained in the Report. The bill, introduced by Dr. Edwards, providing for an inspection of drugs, at the principal sea-ports, was substantially adopted by Congress, and is now a law.

their school of pharmacy, by exposing frauds of various kinds when discovered, and by the publication of a *journal*, which assumes a high tone in its exposition of these abuses, done much to correct the evils spoken of; that it has now become notorious amongst druggists that, of late, important drugs and medicines are specially adulterated in foreign countries, for sale in this, and pass daily through the custom house, to be disseminated by ignorant or unprincipled dealers, to the great detriment of our citizens," &c. &c.

In consequence of the stringent laws now in force in most parts of Europe, regulating the trade in drugs and the dispensing of medicine, none but genuine articles, and those of acknowledged strength and purity, are allowed to be used or purchased. All inferior and deteriorated drugs in a crude state, as well as adulterated medicinal and chemical preparations, must, therefore, as a matter of necessity, find a market elsewhere; and that market, unfortunately for the people of this country, has long been, and still is, found in these United States.

For a long series of years this base traffic has been constantly increasing, until it has become frightfully enormous. It would be presumed, from the immense quantities, and the great variety of inferior drugs that pass our custom-houses, and particularly the custom-house at New York, in the course of a single year, that this country had become the grand mart and receptacle of all the refuse merchandise of that description, not only from the European warehouses, but from the whole eastern world.

On reference had, not long since, to the custom-house books in New York, it was found that 7,000 lbs. of rhubarb root had been passed within ninety days, not one pound of which was fit, or even safe, for medicinal purposes. Much of it had become greatly deteriorated by age, was worm-eaten and decayed, while other portions, notwithstanding they showed a somewhat fair appearance externally (the color, &c., having been brightened by artificial means for the purpose of deception), gave internal, unmistakeable evidence of the virtue of the root having been extracted by previous decoction, for the purpose of making what is sold as the "extract of rhubarb," and thereby rendering it of no further value for medicinal use.—This article was invoiced at from 2½ pence sterling (5 cents) to 7 pence (14 cents) per lb. The price of good rhubarb, at the place of production, has been, for several years past, about as follows:—The *East India*, from 35 to 45 cents per lb., according to circumstances; the *Turkey* or *Russian*, from $1 25 to $2 50 per lb., ex-

hibiting a very wide difference in price, as will be perceived, between the good and refuse article.

Another of our more important articles of medicine, particularly in the newly settled portions of our country, comes to us in large quantities entirely unfit for medicinal purposes; but like the worthless rhubarb root, is eagerly bought up at auction sales by unprincipled drug dealers, and sent to the drug mills, where it is ground and powdered, the color, smell and natural taste imitated, and afterwards sold to country dealers and others as a *good article.* The result of this is, that it is finally dispensed to the sick, at the sacrifice, doubtless, of many valuable lives every year: we mean the *Peruvian bark.*

Several varieties of this bark are used in medicines, viz., the "yellow," the "pale," the "red," &c.; but neither variety can scarcely ever be obtained, at the place of production, of good quality and in good condition, at a less rate than from 30 to 40 cents per pound; and the quality generally used for the manufacture of *sulphate of quinine* (or the salts of *Peruvian bark*), has not, for years, been obtained from those parts of South America where it is produced, at a less price than from $60 to $80 per quintal of 100 pounds. The worthless article particularly referred to above, comes principally from Europe, and seems to be made up of the different varieties already named, as well as to be in a greatly deteriorated condition from age, or from having had its medicinal virtues extracted, for the purpose of making the extract of Peruvian bark, a valuable medicine.

From appearances, it consists mainly of refuse material collected together in foreign warehouses for exportation. It is invoiced from 2 to 7 cents per pound. Thousands of pounds of this trash have passed through the New York custom-house, at the above price, during the past year, and may justly be considered very dear even at those rates.

Columbo and gentian roots, and many more of the important crude drugs, come to us in a similar worthless condition.

Opium.—An article of priceless worth in the treatment of disease, is now sent to this country in a greatly and dangerously adulterated state; and as a proof that the fraud carried on in the preparation of this valuable drug is now made not only a regular but an extensive business, we are assured, on most reliable authority, that it is shipped directly from Smyrna, the most important place of its production, deprived, not unfrequently, of *two-thirds of its*

active principle, that proportion of its medicinal property having been extracted for the manufacture of *morphine*. Opium is found to be adulterated with Spanish liquorice paste, combined with a small quantity of some bitter extract, and when but moderately deteriorated in this way, the fraud is not easily detected at first view; but it has been passed from Smyrna, *by the way of some of the European markets*, so freely adulterated, that the fraud was readily detected merely by the smell! no analysis being necessary. The so called *opium* of this description is often found infested with living worms. Of course, this decaying mass is not sold to the retailer or jobber in this condition, but is previously worked over, and combined with a better quality of *opium*.

To Dr. M. J. Baily, examiner of drugs, &c., at the New York custom-house, the country, and especially the medical profession, are deeply indebted, for the firm and faithful stand he has taken in exposing these frauds. Enjoying the advantage of a thorough medical education, together with a ready and able pen, he has been industrious and successful, through the various journals of medicine and pharmacy, in calling the attention of both physicians and importers to these nefarious impositions. The activity and frankness of this gentleman deserve the highest commendation; we give an extract of a letter received from him, dated April 29th, in which he says, "I am sure such action (referring to a memorial of the National Medical Convention) will have great weight with the members of Congress generally, and cause them to act with more promptness than they otherwise would, whilst at the same time, it will be exceedingly gratifying to me, as I have from the first, in aiding the College of Pharmacy and my profession in their appeal, *used* the knowledge acquired in my present position with a single desire to advance the general good. Motives of self or pecuniary interest (had I listened to the prayers of those interested) would have prompted me to withhold from the public the facts I have willingly disseminated, in order that permanent benefit might result therefrom. Many an argument have I held with those who professed to think it no moral wrong, while it was more profitable to themselves to impose such worthless and dangerous trash upon the community as we complain of."

"For many years a considerable proportion of the foreign chemical preparations, medicinal extracts, &c., have come to us more or less adulterated; but the base fraud is no longer confined to that class of medicines. Opium is now adulterated to a most fearful

extent, and so adroitly as almost to defy detection by the unsuspecting and confiding purchaser. I have lately passed three invoices of opium from London, which, on opening the cases, seemed to all external appearance to be as it should, but a closer examination proved it a base compound of that drug with various vegetable extracts—the mass not affording more than about one-third part of pure opium. When I questioned the consignee, (and to the credit of our regular importers, most of these adulterated and deteriorated drugs and medicines are consignments from speculators abroad,) they admitted their private advices gave them to understand that the article 'was not quite pure;' yet, as the law now is, I must pass all such dangerous and rascally imitations, if they are found *to be charged at their full value, and in commercial language, to be the article specified in the invoice.* In fact, I have no authority to examine into the purity, &c., of any article, further than to enable me to judge as to the correctness of the value expressed in the invoice." We subjoin also a quotation from the Boston Traveller of last week, entitled "frauds in opium." "About twenty cases of opium were sold at auction yesterday, by John Tyler. It was imported from Smyrna and Liverpool in various vessels, and to all appearances was of equally good quality. Notwithstanding this, however, its price varied from $3 45, $1 35, *six cents, to three cents per pound.* An exposition of the fraud was made at the sale. It is said to consist in the extraction of the morphine, or vital principle of the drug, before exportation. This fraudulent opium was invoiced at a lower price than that of the first quality, but still greatly above its real value."

Genuine scammony, another important drug, is now but seldom imported. Not a single pound of pure Aleppo scammony has passed the New York custom-house during the last twelve months. The so called scammony, now imported, contains generally only about one-half the active principle of the genuine article; it being a combination of that drug and a worthless vegetable extract commingled with clay. Pure scammony is an expensive drug; hence the object of its adulteration.

Many of the medicinal gums and gum-resins imported are so deteriorated, or combined with earthy or other matters, that they are not only unsafe, but worthless for medicinal purposes.

The medicinal extracts, which are very important medical agents when pure, were formerly made with great care, and of one uniform strength, but they now come to us not only prepared of the refuse or inferior drugs, but also greatly adulterated, &c. These worthless

extracts, in external appearance, are well calculated to deceive—the parcels being as neatly put up, labelled, &c., as those of the genuine. They are sold by the foreign manufacturer, on an average, at about one-half the price of the pure article.

In this business, as well as in the manufacture of chemical preparations as used in medicine, there has been for years past a regular system of fraud carried on by many of the foreign manufacturers. They have not only expressed their willingness to prepare and send out to order any article in their line adulterated to any extent desired, with a corresponding price, to suit, but they now, it seems, keep constantly on hand a supply of the adulterated, as well as of the pure preparations, and when remonstrated with by our honest importers, they excuse themselves by saying that "they must accommodate the demands or lose sales, &c., as both qualities are ordered in large quantities from the United States—the genuine article, as they are given to understand, for the seaboard, and the adulterated for the western trade!"

The *blue pill mass*, a vastly important and useful pharmaceutical preparation, comes to us greatly and dangerously adulterated. This article, when pure, contains $33\frac{1}{3}$ per cent. of mercury, combined with conserve of roses, &c. The adulterated article, of which large quantities are imported and sold, is, according to the very correct analysis of Professor Reid, of the New York College of Pharmacy, as follows:

Mercury	7.5
Earthy clay	27.0
Prussian Blue, used in colouring	1.5
Sand, in combination with clay	2.0
Soluble saccharine matters	34.0
Insoluble organic matter	12.0
Water	16.0
	100.0

Thus it will be seen this spurious article *contains less than one-quarter of the active principle of the genuine*, to say nothing of the indigestible earthy matter, &c.

Sulphate of quinine, or the salts of the *Peruvian bark*, a medicine now considered indispensable, and of universal use, particularly where *intermittent fever* prevails, comes to us adulterated in various

ways. The usual method is to combine it with *salicine*, (the salts of the *willow bark*,) *chalk*, *plaster of Paris*, &c. The salicine possesses similar medicinal qualities, and resembles quinine very much in appearance, but it is afforded at less than one-fourth the price, and is very far inferior in strength. This spurious article is largely imported, neatly put up in *French style*, with the label of the celebrated *Pelletier*, of Paris, (the original and always one of the most honourable foreign manufacturers,) on each article. This trash is made at an extensive establishment in Belgium, the whole business of which, your committee are informed, is to manufacture and dispose of base imitations of all the important foreign chemical and medicinal preparations. An agent of this establishment has been in this country for the last ten months. His business is to effect sales, and obtain orders. No wonder that those suffering the affliction of fever and ague in the western country take quinine by the tea-spoonful at a dose, rather than a few grains, which is all sufficient when the article is pure.

Calomel is imported not only crudely prepared, but more or less adulterated with a white argillaceous earth or clay, and other articles; while it is put up after the manner, and bears the name of some well known and deservedly popular manufacturing chemist. The whole is a base imitation and fraud.

Large quantities of an imperfectly manufactured *iodine* is imported in kegs, and put in the usual small bottles and parcels here. It is very impure, black, and damp, and totally unfit for medicinal purposes.

Much of the *iodide*, or *hydriodate of potass*, a valuable medicine when pure, is greatly adulterated by the admixture of nitrate of potass, (saltpetre,) thereby changing its nature, and rendering it comparatively worthless.

Many chemical preparations are not unfrequently misnamed; imposing, by that means, upon the purchaser some inferior article, bearing a similitude to the genuine, but different in medicinal qualities and value; the label and the mode of package affording no security to the honest purchaser.

Thus might your Committee continue through the whole catalogue, as most of the fine medicinal chemicals are prepared of unequal strength and purity, for the purpose of cheapening their cost, thereby rendering them less effective and more uncertain in the treatment of disease, and, in some cases, actually dangerous to the patient as well as obviously unjust and greatly embarrassing to the

physician. *We* will here, however, proceed no further; believing the facts already set forth, respecting very many of our most important medicines, and those in daily use, will, if fully understood, satisfy your honourable body of the imperative necessity of the passage of a law calculated effectually to put a stop to this reckless and murderous trifling with human life for the sake of filthy lucre. Every feeling of humanity, as well as regard to justice, towards those who are entrusted with the lives of the people, demand this at your hands.

As elaborate as has been the statement of facts already presented, we are unwilling to dismiss a subject of such vast importance without presenting *additional information*. Dr. Baily, of whom we have before spoken, has had submitted to him by the Committee a series of questions, which we subjoin. His means of acquiring information, his careful observation, together with his general intelligence and integrity, commend to our confidence his answers to these inquiries.

"*Question* 1*st*.—How long have you held the position of examiner of drugs, medicines, chemical preparations, &c., in the appraiser's department of the customs at the port of New York?

"*Answer*.—Since the 3d day of December, 1846.

"What is the amount of drugs, medicines, &c. &c., annually imported into New York?

"*Answer*.—The merchandise of this description entered at the New York custom-house, during the year 1847, amounted to something near one and a half millions of dollars; I cannot name the precise amount, as no separate record of that branch of trade is at present kept in the custom-house.

"What proportions do the importations of drugs, medicines, chemicals, &c., into New York, bear to those entered at the other ports in the United States?

"*Answer*.—According to the records in the Treasury Department, full three-fourths of the entire amount of that class of merchandise is passed through the New York custom-house.

"Will you have the kindness to state, as near as your memory, or any memorandums you may have, serve you, the quantities of some of the more important drugs, &c., imported into the United States, or into New York, during the past year?

"*Answer*.—The quantity of camphor, crude and refined (principally crude), imported into the United States during the year 1847, amounted to 177,403 lbs. Opium, imported during the same period, 85,228 lbs. The quantity of Peruvian bark imported into New York, the same year, amounted to 495,300 lbs.

"Rhubarb root	87,640 lbs.
Gum Arabic	245,270 lbs.
Gum myrrh	7,300 lbs.
Iodide or hyd. potass.	18,450 lbs.
Calomel	5,680 lbs.
Morphine	5,600 oz.
Magnesia (calc. and carb.)	147,300 lbs.
Jalap root	26,350 lbs.
Refined borax	248,360 lbs.
Acetic acid	19,700 lbs.
Sarsaparilla root	75,000 lbs.
Oil of anise	7,342 lbs.
Tartaric acid	57,470 lbs.
Cream of tartar	805,000 lbs.
Gum ammoniac	9,490 lbs.
Gum assafœtida	18,960 lbs.
Iodine	6,340 lbs.
Blue pill mass	4,475 lbs.
Sulphate quinine	11,700 oz.
Supercarbonate of soda	344,270 lbs.
Epsom salts	60,900 lbs.
Carb. of ammonia	180,000 lbs.
Senna	51,300 lbs.
Oil of cassia	9,830 lbs.
Extract of liquorice	462,000 lbs.
Balsam of Tolu	5,800 lbs.
Balsam of copaiva	108,350 lbs.

"What proportion do adulterated, misnamed and vitiated articles bear to those that are pure and of the proper strength?

"*Answer.*—More than one-half of many of the most important chemical and medicinal preparations, together with large quantities of crude drugs, come to us so much adulterated, or otherwise deteriorated, as to render them not only worthless as a medicine, but often dangerous.

"Name, as far as you can, the articles most commonly adulterated, or otherwise deteriorated, the manner of adulteration, &c., and the consequent difference in price between the vitiated and genuine article, with such other suggestions as you may deem to pertain to this question.

"*Answer.*—Opium is at present more frequently adulterated with liquorice paste, combined with a bitter vegetable extract, likewise

with an extract made from the poppy plant, with an admixture of the leaves. An article called opium is prepared and sold for exportation in the foreign markets, composed of liquorice paste, extract of poppy heads and leaves, and a small portion of gum tragacanth, and a bitter vegetable extract. Another article of opium comes to us, more or less, and, in some instances, entirely deprived of its active principle, the same having been extracted for the manufacture of morphine.

"So called opium has passed the New York custom-house, within the last twelve months, so highly charged with liquorice paste, that not only was the smell very perceptible, but, on account of the excess of saccharine matter thereby furnished, the worthless mass was alive with worms! Some of these adulterations are invoiced as low as one-third the price of pure opium, and, of course, are not worth that.

"Calomel is adulterated with chalk, sulphate of barytes, and white lead, and furnished, by the foreign manufacturer, at about two-thirds the price of the genuine.

"The *mercury or quicksilver* of commerce is generally impure; *lead*, *bismuth* and *zinc* are found mixed with it. It should never be used in the preparation of medicine without previous purification.

"*Red oxide* of mercury, or *red precipitate*, is frequently mixed with *red lead*.

"*Blue pill mass* is greatly and extensively adulterated. This article, when pure, should contain thirty-three and a third per cent. of *mercury*, combined with *conserve* of *roses*, &c.; but a spurious article has been imported, to a considerable extent, within the past few years, which is found, on analysis, to contain less than one-fourth part of that quantity, basely mixed up with earthy substances, &c. This worthless article is purchased from the foreign manufacturer at about one-half the price of the genuine.

"*Sulphate of quinine*, another very important medicine, is fraudulently adulterated with *salicine*, *chalk*, *sulphate of barytes*, &c., rendering it comparatively worthless, if not dangerous, as a medicine. This spurious article has been imported and sold in New York (neatly put up with the name, label, &c., of a popular manufacturer) by the agent of a foreign establishment, at the rate of *ninety cents* an *ounce*, when the genuine foreign article could not be purchased of the manufacturer for less than *two dollars and twenty-five cents* an ounce.

"Large quantities of iodine are sent to us in bulk, and in a very impure condition, by foreign manufacturers and speculators. It is

almost worthless as a medicine; but, nevertheless, it is bought up by *our* speculators, who have it neatly put up in small bottles, &c., and sell it as a good article. The same with *iodide* or *hydryodate of potass*, which is frequently found adulterated with *nit. potass* (*saltpetre*), sal. acetosellæ, &c. *Bromide* of *potassium* is labelled and sold as genuine hydriodate.

"Many of the foreign medicinal extracts are prepared and sold in reference to *price* rather than *strength* and *purity*. The foreign manufacturers prepare any *quality* called for. *Compound extract colocynth* (as the label imports) comes to us in a manner well calculated to deceive, but, on examination, is found to contain not one particle of *colocynth*. This spurious article is invoiced at about one-third the price of the genuine article. *Extract* of *Peruvian bark*, *sarsaparilla*, *rhubarb*, *hyoscyamus*, jalap, &c. &c., of a like inferior description, are constantly being imported to a greater or less extent.

"Very little, if any, of the pure Russian castor finds its way to this country. An imitation compound of *dried blood*, *gum ammoniac*, and a little real *castor*, put up in artificial bags, is the article generally met with.

"But one invoice of *real myrrh* has been imported into New York during the past eighteen months, while very large quantities of the artificial have been imported direct from Canton, where the manufacture is carried on to a great extent. This impure article is invoiced at less than one-fifth the price of the genuine, and is not possessed of any medicinal quality.

"Very little pure and prime *gum myrrh* is imported; most of it is adulterated by the admixture of other and inferior gums.

"Most of the *gum ammoniac* now imported is more or less adulterated with common resin and earthy substances. It sells for less than one-third the price of the *guttæ ammoniaca*, or pure gum.—The latter is now seldom met with.

"*Gum assafœtida* is most extensively adulterated with inferior mucilaginous gums, chalk, clay, &c. An invoice of some *four* thousand pounds of this article passed the custom-house at New York not many months since, and not one pound of which was proper to be used for medicinal purposes without previous purification.

"*Peruvian bark* comes greatly mixed, and no small portion of it of a very inferior and worthless quality. We know of even twenty-five distinct species of this bark, and, as may be supposed, they differ greatly in strength and price. Considerable quantities are shipped to this country after having had the active portion extracted for the purpose of manufacturing *extracts of bark*. The best article

is imported or purchased for the manufacture of *quinine;* the other for powdering. It comes invoiced from five cents to one dollar per pound, according to the place of purchase, and the quality of the bark. *Peruvian bark*, fit to be used in medicine, can only be bought at the place where produced, at from thirty-five to seventy and eighty cents per pound.

"No pure *Aleppo scammony* has, for a long time, been imported through the New York custom-house, because the article in inferior strength and purity has taken its place in the market. The *Smyrna scammony* is always adulterated with some worthless vegetable extract, flour, ashes and clay. An article *called Smyrna scammony* (and a fair imitation) is occasionally imported, which has proved to be a combination of *jalap*, *gamboge*, *chalk*, *gum Senegal*, and *ivory black*, without a particle of real *scammony* in its composition.

"Thousands of pounds of worthless rhubarb root are sent out annually to this country for a market, by foreign speculators, principally from England. London being the greatest drug market in the world, it is but reasonable to suppose that large quantities of crude drugs, of a greatly deteriorated and inferior quality, must necessarily be constantly accumulating in their warehouses, which, on account of the long-existing laws of that country, cannot find a home market, and, in consequence, must either be destroyed, or exported to some place where there is no law to prevent their introduction. The article of rhubarb I have alluded to, is found, on examination, to be either greatly deteriorated by age, or as having been deprived of its medicinal virtues by decoction, for the purpose (as with the Peruvian bark above named) of manufacturing extracts.

"This worthless drug is generally found to be what was once East India rhubarb, and is invoiced at from four to fourteen cents per pound, when, at the same time, the most ordinary *fresh rhubarb* of the kind, fit to be used for medicine, cannot be purchased, at the place of production, for less than from thirty-five to fifty dollars per hundred pounds. This trash is bought up by speculators for powdering, and is sold to the unsuspecting retailer as a 'fair article.'

"More than one-half of the *cinnamon* imported into New York during the past year was a very inferior article; some of it nearly tasteless, on account of its virtue having been extracted by distillation, in the manufacture of the *essential oil.* Most of the oil of cinnamon comes more or less adulterated with inferior oils; and the same may be said of most of the other medicinal essential oils.

"More than three-fourths of what is called *croton oil* imported is either adulterated, or an oil of inferior quality, made from an entirely different seed from that which furnishes the genuine article.

"Much of the rectified medicinal naphtha imported is a crude preparation, and very impure. This, as well as many other medicinal preparations, such, for instance, as iodine, hydriodate of potass, magnesia, epsom salts, &c., are made in considerable quantities, without the requisite care, in the large foreign chemical establishments, where their regular business is to manufacture only the coarser chemical preparations, used almost exclusively in the arts. Of course, these articles, being hastily and imperfectly prepared out of the "odds and ends," and as rudely put up for market, can be afforded at a much less price than the pure article. It is now common for the foreign manufacturer to send out to this country these articles, on consignment, with his other preparations, used in the arts. It may not be amiss for me here to say, for the benefit of the medical profession and dealers generally throughout the country, as well as for the *army* and *navy surgeons*, who purchase chemical and medicinal preparations for the public service, that too much reliance, in their selections, must not be placed upon what purports to be the *name* or *label* of some noted and foreign popular manufacturers, which they may find attached to the bottle or package. For it must be borne in mind that, while many of the adulterated, fine chemicals, &c., come to us neatly put up in small quantities, for the retail trade, bearing a fictitious label, much of the very crudely and imperfectly manufactured chemicals I have named, together with considerable quantities of *morphine*, is imported in *bulk;* or, in other words, in bottles or cases, containing several pounds each, and bearing only the name of the article; giving us no clue to the real manufacturers beyond what may be gathered from the name or names of the exporters upon the invoice; and they are not unfrequently foreign commission merchants. Notwithstanding this, these crude and impure articles in bulk find, I regret to say, ready purchasers among unprincipled dealers, who have them put up in small quantities (similar to the genuine), in foreign bottles, imported expressly for the purpose; to which is, afterwards, attached a neatly executed imitation label of some well known foreign manufacturing chemist. The articles are then ready for market, and are purchased by the unsuspecting (for circulation throughout the country), I fear, too often, on account of the label, and general external appearance of the bottle, without proper attention to the contents. Hence the

reason many chemical preparations fail to meet the reasonable expectations of the country practitioners, who have neither time, means nor opportunity of analysis.

"Whence do we derive the largest proportion of these adulterated and deteriorated medicines?

"*Answer.* The largest quantity comes from England; but other portions of Europe furnish more or less of these base compounds and worthless drugs.

"Is this traffic on the increase, proportionate to the increase in the trade of drugs, medicines, &c.?

"*Answer.* It is.

"What proportion of the importers in New York are engaged in this traffic, to any extent, with a full knowledge of the articles imported?

"*Answer.* I know of but two or three of our regular and otherwise respectable houses who order these vitiated articles from abroad. The business is more generally in the hands of commission houses, where 'good, bad, and indifferent' can be found 'in quantities to suit the purchasers.' A great proportion of these adulterated articles I have reason to believe are consignments.

"From your knowledge of medicine, and the information acquired in your present position, are not the deceptions, in many instances, so great as to deceive, not only the people generally, but the profession at large?

"*Answer.* Such is, unfortunately, too true; and, what is more to be regretted, these base imitations are rapidly multiplying; giving, at the same time, evidence on the part of the manufacturer of increased proficiency in the deceptive art, as applied to the preparation of vitiated medicines.

"Are you acquainted with any agents of foreign manufacturing chemists who travel in this country, for the purpose of collecting orders and effecting sales of adulterated medicines, &c.?

"*Answer.* I am acquainted with persons of that description, and they have been among us for the past twelve months.

"What is the best and most effective mode to put an end to the importation of adulterated and deteriorated medicines?

"*Answer.* In my opinion, the object can only be attained by the passage of a law by Congress, making it necessary that all *drugs*, medicines, &c., before passing the custom-house, shall be subjected to an examination, strictly in reference to their strength and purity, by properly qualified *examiners*, especially appointed to that duty;

admitting to entry only those found of good quality, and prohibiting the introduction of all others.

"You say *examiners* instead of *inspectors*. To avoid a misunderstanding of the term inspectors, appraisers, and examiners, will you please explain the difference in the duties of each?

"*Answer.* The term inspector properly applies to those custom-house officers whose duty it is to take charge of vessels on their arrival from foreign ports, and discharge the cargoes in accordance with the directions specified in the permits or orders sent to them from the collector's office. They have only to inspect the *marks* and *numbers* of each package before it is discharged from the vessel, to see that the same correspond with those called for on the permit or order. They have *nothing* to do with the *contents of the packages.* When the vessel is entirely discharged, the inspector makes his return accordingly to the collector, and is then ready to be placed on board of another.

"The term examiner applies to clerks in the appraiser's department, whose duty it is to examine by *invoice the contents* of such packages of merchandise as are sent to the public store by the collector for that purpose. If, on examination, the merchandise is found to be fairly valued, a return to that effect is made upon the invoice, and the examiner's check is countersigned by the appraiser; after which, the invoice goes to the collector's office, and the merchant can obtain his goods by procuring an order on the storekeeper, after paying the duties.

"The term *appraiser* applies to the head of the appraiser's department, whose duty it is to exercise a constant and general supervision over the office, and countersign all returns upon invoices made by the assistant appraisers and examiners.

"Do not the present laws permit the importer to call for a reappraisement of his goods when he is dissatisfied with the return of the examiner; and if so, please explain in what way?

"*Answer.* The law allows the importer that privilege. The present laws and instructions from the Treasury Department require all goods to be examined and appraised, according to their fair market value at the place of purchase and the time of exportation. If, on examining the quality of the goods, and the price specified in the invoice, it is the opinion of the examiner that they are charged below the market value, he must mark them up; or, in other words, add such a per centage to the invoice as will bring them up to the price at which they should have been invoiced, and on which addi-

tional value the owner or consignee must pay a corresponding duty. If the examiner add ten *per cent.* or more to the invoice, the owner or consignee is thereby subjected to the additional payment of a penalty of twenty per cent. on the whole amount of goods so 'marked up,' unless upon a re-examination the examiner's return is declared to be erroneous. To effect this re-examination, the owner or consignee must deposit with the collector an amount sufficient to defray the expense. The collector selects two disinterested merchants, and on their report decides the matter in controversy.

"Give an example of a return on drugs, &c., under the present law, and one of a return under a law looking to their strength, purity, &c., as well as to their commercial value.

"*Answer.* At present, if on examination the value, &c., is found correct, I copy on the face of the invoice the marks and numbers of each package examined, and write against it (supposing the article opium) 'one case of opium,' to which I affix my check or initials. Under a law requiring an extended examination into the strength and purity of the articles, I should, after a thorough examination of the opium, for instance, proceed as above in copying the mark and number of the package; and if I was satisfied with the quality, &c., I should write 'one case of opium, examined and found correct;' but if I found the article not as it should be, I should write, 'one case of opium, examined and found *not* of *the requisite strength and purity.*'

"If Congress prohibit the importation of these foreign adulterated medicines, will the domestic manufacturer be induced thereby to direct his attention the more readily to the preparations of similar articles?

"*Answer.* By no means; for the obvious reason that the regular trade is ever watchful, and would soon detect any fraud of the kind, and trace it immediately home to its guilty source; when well directed, public opinion would, in most instances, promptly apply the remedy at the expense of the reputation and business pursuits of the offending party. Let Congress protect our people from foreign imposition in this matter, and the States of this Union will separately, if needs be, protect themselves from domestic evils of the kind, by enacting stringent laws, in reference to the purchase and sale of medicines for home consumption, similar to those which have been most effectively in operation throughout Europe.

"Do your commission merchants solicit consignments of these adulterated drugs and medicines?

"*Answer.* I have reason to believe that some of them do; but we have many commission houses conducted by highly respectable and honourable merchants, who have expressed themselves as opposed to that trade, and in favour of an appeal to Congress for the passage of a law prohibiting the importation of that kind of merchandise, not only as a matter of interest, but from principle; of interest, because they well know they would receive a larger *amount* of consignments in that class of merchandise, if good and pure articles were sent them, instead of the spurious and comparatively worthless.

"Why has this base traffic been allowed to continue so long without a public expose, and some attempt being made at New York to arrest its passage?

"*Answer.* Attempts have been made. The New York College of Pharmacy have for years been engaged in the endeavour, by force of reason, to put a stop to the trade in these adulterated articles; as far as facts came before them. The medical profession have been awake to the vital importance of the subject; but, until some eighteen months past, there has been no person in charge of that branch of trade in the custom-house who had a practical knowledge of drugs and medicines, and their composition, &c., from whom any data could be obtained showing the extent of these frauds.

"The Hon. Jno. C. Spencer, when Secretary of the Treasury, was appealed to, to remedy the deficiency the profession felt to exist in the customs. He replied most favourably; but as the request was made about the time he retired from that office, he could not carry these wishes into effect. The present Secretary of the Treasury was next appealed to, and promptly entertained the subject as one of great importance, and did not lose sight of it until effective measures were taken, at his request, to fathom the depth of the evil complained of."

In tracing the progress of human society, as described in sacred and profane history, we find that, from the earliest age, the duty of protecting health and life has ever been acknowledged, and in proportion as man has advanced in civilization, have governments directed their attention to this important subject. An examination into the results will show, that where this duty has been most attended to, human suffering has been assuaged, and human life prolonged. In no form of government under Heaven's canopy is the life of the citizen so important as in a free one, for, under our institutions, the maturity of every male citizen gives him privileges

unknown or unacknowledged in others. Here he becomes an active participator in all public matters; his voice is potential in every social interest; he decides upon what laws shall be enacted, and what measures adopted for the public weal. In proportion as his principles and powers are great, so rises the obligation of government to protect his health and life. Yet, in the face of these admitted truths, we are compelled to make the humiliating confession that the paternal care of the American government has not, in this respect, been efficiently and justly exercised. Yet the governments of Europe, where the life of the subject is not of equal force in the social compact, have in effect placed a much higher estimate upon it, inasmuch as we find them far in advance of us in fostering and protecting that science to which is confided the care of the public health.

Throughout the continent of Europe great attention has been paid to this object, as appears from the enactment of wise sanitary laws.

Upon the accession of the present ministry in England, the premier proclaimed "amidst the great social improvements which it was the duty of ministers to protect, none was paramount to recommending the enactment of proper sanitary laws for the preservation and cure of disease amongst the people." Here is not only a distinct recognition of the duty of government, but a pledge of the revenues to the preservation of the public health. But surely we do not require the example of other governments in this matter; the impulse to protect from, and to alleviate, disease in others, springs from a higher source—it flows from the fountain of man's moral nature, from that higher, holier feeling which prompts us all to do good to our fellows—from that philanthropy which makes every man our brother—his sufferings and his health, not only our solemn trust and charge, but our pleasurable duty and care. To medicine properly belongs this sacred duty, and the profession has given the most glorious proofs of faithfulness and devotion in the discharge of it. To them we owe the staying of the pestilence. By them that scourge of man, the small-pox, has been robbed of its loathsomeness and its terrors; its ravages are rarely seen, and its destruction is checked. By them the plague, that terrible infliction, which so long annually devastated the eastern continent, has been rendered comparatively harmless; and that more recent scourge, the cholera, has been rendered more amenable to the healing art. The superstitions of former ages, in regard to diseases and their reme-

dies, are now nearly extinct, and are rapidly passing into oblivion. The siderial influences, the malignant aspect of the stars, with the conjunction and opposition of the planets, are not now invoked to stay the pestilence. The abracadabra and the hexameter are no longer suspended from the neck of beauty, as charms to protect against disease. Through the unwearied labour of medicine the causes of pestilential epidemics have been discovered, and the world has been warned and protected against them; the polity of the state has been directed to their removal, and the lives of millions thus been spared for future usefulness. The contagious nature of disease has been proclaimed, and by the adoption of a stringent medical police, the public health has been guarded and preserved. Thus has an army of devoted medical men stood between the people and the pestilence.

To the medical profession society owes all its great sanitary regulations. What avail all your hospitals for the sick and the disabled? What your houses of refuge for the insane, the deaf, the blind, without proper medical aid? They are all in vain. To the profession the world is indebted, not only for the first impulse in the erection of these glorious charities, but, for their proper regulation, for all the glorious results they have effected.

As we have before remarked, the day of incantation and charms, of sympathetic and mesmeric cures, has passed. Medicine, in its practice and relations, is now a natural science, and acts confessedly through natural agents. The earth has been explored, its surface and its depths, yea, the "deep unfathomed caves of ocean," have yielded their tribute to the mass of information and material employed by skilful men, for the benefit of mankind. Minds of the most enlarged capacity have employed their strength, while explorers of most adventurous daring have traversed every clime in pursuit of knowledge subsidiary to medical science. Amidst the arctic snows, or beneath the scorching rays of a tropical sun, its votaries have braved dangers, disease, and suffering, and have ever borne themselves gallantly, and with triumphant success. Medicine has fully kept pace with its kindred sciences—hand in hand with the most liberal of all, it has progressed, and is progressing. But in vain do we push investigation into the laws of disease; in vain does *materia medica* open its vast and various treasure; in vain may pharmacy and chemistry point out and provide the curative agency of means, if those means themselves, through mercenary fraud, are despoiled of their power to heal.

The medical profession in this country have established, and well sustained, a number of able medical journals; but, owing to the same crying evils, these useful and necessary aids in promulgating knowledge have greatly disappointed their friends, by exhibiting discrepancies almost too great for credulity. Examine the catalogue of adulterated medicines, and you have the key to the secret. Excessive doses of medicine are prescribed in some sections of our country, particularly the south and west; portions which, if pure, might well startle the eastern and northern practitioner, and used anywhere would endanger life. Quinine is used, in many cases, in incredible quantities; but this is accounted for most rationally, by the admixture of this valuable and necessary agent with salicine, chalk, &c. In acute diseases, dependent upon locality and climate, a difference in medical agents may be expected; but in chronic affections, having a set of regular phenomena in every clime, these discrepancies and contradictions would be perplexing, could they not be traced to the adulterated agents prepared expressly for "southern and western trade."

Your committee deem the demands of the medical profession and honest importers of drugs and medicines for protective legislation reasonably well founded, and obviously just. These demands can have no origin in selfishness, or design of pecuniary advancement. Their requests flow from a higher, purer fountain. Humanity, self-respect, and a just professional pride have prompted their petitions. These petitioners are aware that the ill success of well-directed skill gives rise to pretence and quackery in their worst forms. The destruction of confidence brought about by fraudulent and adulterated medicine, gives place and prominence to men whose qualifications give them no claim whatever to either confidence or respect.

Various suggestions have been made to your committee, as to the best means of remedying the evil complained of. They are principally: 1st. Increased duty on the adulterated article. 2d. Condemnation, re-exportation or destruction. For various reasons, they have selected the latter as the wisest and safest course. To increase the duty on adulterated medicines, would be but to place the public sanction upon fraud, and would give the dishonest importer and trafficker an important advantage, as he enters the articles at his own price. Thus, in the case of the rhubarb root, already mentioned, entered at five cents per lb., a duty of even five hundred per cent. would give the adulterated article the advantage of fifteen or twenty cents per lb.; an advantage sufficient to tempt the cupidity

of men without principle. It is the article impaired in usefulness, or combined with effete and even noxious agents, that is complained of; and merely to raise the duty, would be compounding with villainy. To avoid both, the committee recommend the latter suggestion referred to, as the only effective means of riddance. The party complaining has a remedy in a careful analysis, and if he be an American importer, and has been imposed upon, he will not be liable for the price stipulated. We have a precedent for this recommendation in the tariff act of 1842, section 10, continued and in force in the act of '46. That section declares "all indecent and immoral books and pictures as subject to confiscation and destruction," and many instances have occurred, under that act, of a faithful compliance with its provision. The paternal supervision of all good governments is not only needed to protect the morals of the people, but is justly demanded in all that pertains to their health and physical wellbeing.

A suggestion against the bill is, that it interferes with trade, and restricts commerce; and that all men should be allowed to purchase what either comports with their tastes or interests, without restriction. The most zealous advocate of these doctrines admit they are but general rules, and to them there are obvious exceptions. We deem that articles used as medicine come under the exception. It would matter but little if the cloth bought from a French manufacturer should lose its gloss, and prove defective in texture; or whether the wine or brandy, of some favourite brand, should leave its friend and devotee with a headache. The coat may be replaced by one of home manufacture, if not so beautiful at first, yet more durable; and the consequences of a debauch on fraudulent wine can be remedied by eschewing all wines. But a mistake in the strength and purity of a confessedly valuable medicine, may be followed by consequences at which humanity may mourn, but its tenderest sympathies are lost on the sufferer.

The prayer of the petitioners is, that they may be protected from noxious agents, in the shape and under the name of medicine. And we deem there are but two parties in this issue; the people, every man, woman, and child, on the one side, and the foreign fabricator, or dishonest importer on the other. The laws punish the use of the dagger, yet nothing protects community from violence not less fatal, but better concealed under the popular name of trade. If a man write another's name, or pass a counterfeit bill, the prison is his doom; if he stop the mail on the highway, and thereby

endanger life, he may be executed. To pass a counterfeit bill is a crime, but to pass a counterfeit medicine is not. Trade and correspondence are more valuable than life, because especial laws are passed for their protection. To state the argument is to refute it.

Your committee deem the facts set forth in the above communication of sufficient importance to challenge the attention of Congress, and to demand the exercise of power asked for by the *bill*. The reports of every day are filled with death. The gallant troops now in Mexico have dwindled frightfully before the diseases of that climate. That army possesses in its own tried valour an effectual element of protection from the present or any future enemy. It does not ask our protection from the foe; for this it looks to God and its own right arm; but "the arrow that flyeth at noonday, and the pestilence that walketh in darkness," are beyond their vigilance and prowess. Your committee, by frequent conversations with the surgeons in attendance upon our troops there, have been surprised at the herculean portions of active medicines prescribed in many forms of illness. They were at first disposed to trace many of these prescriptions to peculiarity of climate and endemic disease. But the adulteration of the medicines used accounts for and fully justifies these seemingly extravagant prescriptions, and also explains the lamentable mortality attendant upon our troops. We are not aware of the existence of a law requiring inspection of drugs and medicine purchased for the army or navy. We believe no inspection is had in this department; and, whilst a rigid examination of material for clothing and subsistence is demanded, the sick and wounded are left to him who furnishes agents necessary for their comfort and recovery, as the lowest bidder. We deem this a dangerous proceeding, and one imperiously demanding legislation.*

To exemplify the dangers, we quote from the published "accepted contracts" made by the "Bureau of Medicine and Surgery," for the year ending 30th June, 1846. We give the contract price of a number of articles, and the price then current. We present it

* Disease *vs.* the Sword.—The number of our troops in Mexico who have perished in battle bears no proportion to those who have fallen victims to the climate and the exposure consequent on army life. The second Pennsylvania regiment consisted originally of 1,137 men. Only 8 were killed in action, while no fewer than 213 died from disease induced by the climate, &c. Company H, of the Massachusetts regiment, left Boston with 80 men, and, although it has been in no action, this number was reduced to 18 on the 8th of April last, when the small remnant was at San Angel. This had been caused by death, desertion, discharge, and left in hospitals, on the road from Vera Cruz to Mexico.—*Daily Republican.*

to show the inefficiency of our present laws, and disclaim all intention of censure of the distinguished officer who presides in that bureau. We have been unable to obtain the published contracts of the army and navy of last year, and cannot speak advisedly of prices then paid. We select a few articles from the document, giving contract with market price.

	Contract price.		Market price.
Peruvian bark, not powdered	$0 5 lb.	for good	$0 70 lb.
Peruvian bark, in powder	25 lb.	do.	1 00 lb.
Gum aloes, (socotorine)	25 lb.	do.	75 lb.
Gum assafœtida	10 lb.	do.	40 lb.
Quicksilver	75 lb.	do.	1 30 lb.
Ext. sarsaparilla	2 00 lb.	do.	3 00 lb.
Cinnamon	32 lb.	do.	90 lb.
Elaterium	$1 00 oz.	do.	$3 50 oz.
Cantharides, powdered	1 12 lb.	do.	2 25 lb.
Gum kino	33 lb.	do.	90 lb.
Manna, flake	55 lb.	do.	1 00 lb.
Rhubarb, pulv.	75 lb.	do.	1 25 lb.

We have made these selections with the view of demonstrating the necessity of legislation.

In none of the various branches of trade are such opportunities of fraud offered, as in that pertaining to the preparation of medical agents. Every one, by practice or observation, may derive sufficient information to detect imposition in the various articles of necessity or taste, while but a very limited number are qualified to detect frauds in medicine. Many know, or affect to know, the *modus operandi* of medicines, whose general knowledge does not in reality extend beyond the quantity prescribed and the general external appearance of the various preparations. Every physician cannot, (even in the extended compass embraced in the present requirements of our medical schools,) by possibility, be an analytical chemist; and in a majority of cases, the requisitions of an extended practice and the exigencies of a critical case, would preclude the possibility of an analytical examination. In a practice requiring his assiduous attention and closest scrutiny, it would be exacting too much to expect the physician to be encumbered with a chemical laboratory. We deem the protection afforded by the bill will obviate, to a great extent, the necessity of this procedure.

There are but few of us who have not stood beside the beds of sick

friends, and watched with anxiety the professional attention of the physician; and we have staked our confidence and our all on the curative agents administered. Alternate hope and fear animate and depress. The agents given are prescribed in official doses; but, alas! they are spurious, misnamed, adulterated; and pressing the subject no further, we leave the imagination to complete the picture.

No one is exempt from attacks of disease. Soon or late all mankind need the aid of medicine. Oh! who has not thought, when pressed by the hand of affliction, and groaning under the many ills that flesh is heir to, of the happy home, the heritage of our first parents. One act of disobedience brought death and all its concomitant evils. We have seen it in the battle front; we hear its wail when famine and woe are near; it commenced its persecutions at our birth, and will only end them at our death. The All-wise Being has not left us without a solace. The bruised and perturbed spirit, the healing balm of a revealed religion blesses and restores; for the sick and afflicted, a no less bountiful provision is made. Every kingdom in nature opes its bosom and stretches forth its hands to tender its benefits; every plant and flower, every hill-top, every valley, the mountain and the sea, all afford him curative agencies, challenge his interests, and awake his gratitude.

Surely, these blessings should not be frustrated; these gifts of kindness and comfort should not by man's invention and cupidity be perverted from their primitive design. The knowledge expended in adulterating medicine can find no apologist. Connected with it, are degradation and infamy, at which we well might startle. What opinions would we entertain of the cutler, who would prepare his instruments, either to break in the surgeon's hands, or with a refinement of cruelty, so construct the knife as that its edge would turn on its first use. Destitution and want may drive a man to seize upon that which is his neighbour's, and we might in pity overlook the crime, or cover it with the mantle of charity; but the cool-blooded, deliberate, studied, and fatal deception practised in articles designed for the relief of suffering and disease, can admit of no palliation—can find no excuse.

K.—1.

To the Honourable Senate and House of Representatives in Congress assembled—

The memorial of the American Medical Association, consisting of delegates from the several States in the Union, at their annual meeting in Baltimore, assembled May, 1848, respectfully represents:—

That it has become notorious among druggists, apothecaries and physicians, that of late, important drugs and medicines are specially adulterated in foreign countries, for sale in this country, and pass daily through the custom-house to be disseminated by ignorant and unprincipled dealers, to the great detriment of our citizens.

That believing Congress possesses the power to enact laws to prevent the evils complained of, by subjecting all drugs and medicines to the inspection of persons duly qualified, whose duty it shall be to ascertain their real character and to keep such records as will guard the honest dealer against imposition—

Your memorialists, therefore, ask of your honourable bodies, that a law be enacted, embracing the appointment of a proper inspector at each chief port of entry, whose duty it shall be to examine all imported drugs and medicines, and to keep a record of such inspections, including the names of the parties, which shall be open for consultation to druggists and apothecaries and others concerned;—or to adopt such other measures as in your wisdom may seem best adapted to prevent the evils complained of.

K.—2.

AN ACT to prevent the importation of adulterated and spurious drugs and medicines, approved 26th June, 1848.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That from and after the passage of this act, all drugs, medicines, medicinal preparations, including medicinal essential oils, and chemical preparations used wholly or in part as medicine, imported into the United States from abroad, shall, before passing the custom-house, be examined and appraised, as well in reference to their quality, purity, and fitness for medical purposes, as to their value and identity specified in the invoice.

Sec. 2. *And be it further enacted,* That all medicinal preparations, whether chemical or otherwise, usually imported with the name of the manufacturer, shall have the true name of the manufacturer, and the place where they are prepared permanently and legibly affixed to each parcel by stamp, label or otherwise; and all medicinal preparations imported without such names affixed as aforesaid shall be adjudged to be forfeited.

Sec. 3. *And be it further enacted,* That if on examination any drugs, medicines, medicinal preparations, whether chemical or otherwise, including medicinal essential oils, are found, in the opinion of the examiner, to be so far adulterated or in any manner deteriorated, as to render them inferior in strength and purity to the standard established by the United States, Edinburgh, London, French and German pharmacopœias and dispensatories, and thereby improper, unsafe, or dangerous to be used for medicinal purposes, a return to that effect shall be made upon the invoice, and the articles so noted shall not pass the custom-house, unless on a re-examination of a strictly analytical character, called for by the owner or consignees, the return of the examiner shall be found erroneous, and it shall be declared as the result of such analysis, that the said articles may properly, safely, and without danger, be used for medicinal purposes.

SEC. 4. *And be it further enacted*, That the owner or consignee shall at all times, when dissatisfied with the examiner's return, have the privilege of calling, at his own expense, for a re-examination, and on depositing with the Collector such sum as the latter may deem sufficient to defray such expense, it shall be the duty of that officer to procure some competent analytical chemist possessing the confidence of the medical profession, as well as of the colleges of medicine and pharmacy, if any such institutions exist in the State in which the Collection District is situated, [who shall make] a careful analysis of the articles included in said return, and a report upon the same under oath, and in case the report, which shall be final, shall declare the return of the examiner to be erroneous, and the said articles to be of the requisite strength and purity, according to the standards referred to in the next preceding sections of this act, the entire invoice shall be passed without reservation on payment of the customary duties; but in case the examiner's return shall be sustained by the analysis and report, the said articles shall remain in charge of the Collector, and the owner or consignee, on payment of the charges of storage, and other expenses necessarily incurred by the United States, and on giving a bond with sureties satisfactory to the Collector to land said articles out of the limits of the United States, shall have the privilege of re-exporting them at any time within the period of six months after the report of the analysis; but if the said articles shall not be sent out of the United States, within the time specified, it shall be the duty of the Collector, at the expiration of the said time, to cause the same to be destroyed, holding the owner or consignee responsible to the United States for the payment of all charges, in the same manner as if said articles had been re-exported.

SEC. 5. *And be it further enacted*, That, in order to carry into effect the provisions of this act, the Secretary of the Treasury is hereby authorized and required to appoint suitably qualified persons as special examiners of drugs, medicines, chemicals, &c., namely: one examiner in each of the ports of New York, Boston, Philadelphia, Baltimore, Charleston and New Orleans, with the following salaries, viz: at New York sixteen hundred dollars per annum, and at each of the other ports above named one thousand dollars per annum, which said salaries shall be paid each year quarterly, out of any moneys in the Treasury not otherwise appropriated; and it shall be the duty of the said Secretary to give such instructions to the Collectors of the Customs in the other Collection Districts, as he may

deem necessary to prevent the importation of adulterated and spurious drugs and medicines.

SEC. 6. *And be it further enacted*, That the special examiners to be appointed under this act shall, before entering on the discharge of their duties, take and subscribe the oath or affirmation required by the ninth section of the act of the thirtieth of July, eighteen hundred and forty-six, entitled "An Act reducing the duty on imports and for other purposes."

SEC. 7. *And be it further enacted*, That the special examiners authorized to be appointed by the fifth section of this act shall, if suitably qualified persons can be found, be taken from the officers now employed in the respective Collection Districts; and if new appointments shall be necessary, for want of such persons, then, as soon as it can be done consistently with the efficiency of the service, the officers in said districts shall be reduced so that the present number of said officers shall not be permanently increased by reason of such new appointments.—Approved June 26, 1848.

DEPARTMENT OF STATE, June 28, 1848.

The above is a true copy as compared with the original Roll.

(Signed) W. S. DERRICK, *A. C. C.*

L.

New York, May 1st, 1848.

To the United States National Medical Association.

The undersigned, on behalf of the Standing Committee on Registration of Births, Marriages and Deaths, respectfully

REPORTS,

That in accordance with the instructions of the Association last year, the address which was then adopted has been transmitted to the authorities of all the United States.

Although no definite action has as yet followed this proceeding, in either of the States, as far as your committee have been informed, yet the agitation of the subject by the Association has undoubtedly been the means of awakening attention to the value of a general registration in many places; and we have strong reason to believe that the time is not far distant, when a majority of the States will perceive how great an interest attaches to it.

In the States of Massachusetts and New York, registration laws are now in full force, and the interest in their proper execution is decidedly on the increase. On the first introduction of the law, the friends of the measure in both those States felt much anxiety lest a too great stringency of obligation upon the officers appointed to execute it might jeopard its passage, or precipitate its repeal;—but experience has demonstrated that the benefits of the measure are sufficiently understood and appreciated, and no difficulty has been found in so amending the law as to make the returns, to a greater or less extent, compulsory.

Upon the medical profession of the United States, and especially those who are members of the Association, must devolve the duty, chiefly, of arousing the attention of the State Governments to the value and necessity of a general adoption of this measure.

In the States of New Jersey and Georgia, and perhaps in others, whose proceedings have not come to the knowledge of your committee, steps have been taken to give effect to the recommendation of the Association; it is true with only partial success, but still success of such a character as to justify the belief that a second attempt will triumph. Let each member of the Association, when he returns to his constituents, but feel the weight of his responsibility, and exercise his influence in his local society and section of country to set on foot a proper action for the purpose, and the experience of the States which have been named above fully warrants the conclusion that efforts for this desirable object cannot be wholly fruitless.

Respectfully submitted on behalf of the Standing Committee.

JNO. H. GRISCOM, M. D.

Chairman.

M.

REPORT OF THE COMMITTEE ON INDIGENOUS MEDICAL BOTANY.

The Committee appointed under the following resolution, adopted at the last meeting of the American Medical Association, would respectfully

REPORT.

"*Resolved*, That a committee of one from each state represented in this Convention be appointed by the president, whose duty it shall be to investigate the Indigenous Medical Botany of our country; paying particular attention to such plants as are now, or may be hereafter during their term of service, found to possess valuable medicinal properties, and are not already accurately described in the standard works of our country; and report the same in writing, giving not only the botanical and medical description of each, but also the localities where they may be found, to the next annual meeting of the American Medical Association."

Until within a very recent period, and, indeed, we may say until the present time, our own indigenous Materia Medica has received far too little attention from the profession. Its ample resources have been but partially developed, and many of its articles which have found a place in medical works, have been very imperfectly investigated, and hence are but partially understood. To be satisfied of the truth of this, we have only to look over the list of indigenous articles classed as *medicinal*, by the few able medical botanists who have entered upon this fertile field of inquiry, and scrutinize the evidence on which their reputation rests. We shall find that comparatively few of them have been either chemically analyzed, or their action on the animal economy ascertained by any well directed series of observations. Hence, it was not so much the object of the mover of the resolution, under which the committee now acts, to add *new* articles to the list of those already *claimed* as medicinal, as it was

to investigate carefully, and ascertain accurately the value of the many, whose properties have been hitherto resting on a traditional, if not entirely fabulous species of evidence. The importance of such an investigation, together with a more universal study of botany by medical men, will be apparent from two or three considerations.

And first, there are not only several diseases that are incurable, in all their stages, by any known remedies, but we have also not unfrequently certain stages and conditions of the system arising during the progress of diseases acknowledged to be curable, presenting indications which are very imperfectly met by the remedies in common use, or any of their combinations. Hence, if there were no other considerations, this alone would render it the imperious duty of every physician to search diligently for new and more efficient agents for combating what are now too justly styled the *opprobria* of our profession.

Second, there is an opinion extensively entertained by the mass of mankind, that there exist in the vegetable kingdom of every country appropriate and effectual remedies for the diseases of that country. And it is this opinion, sedulously fostered by interested parties, that constitutes the foundation on which rests the success of the whole vast tribe of Thompsonian, Botanical, Indian, and other vegetable *doctors*. It bears the relation to the community of a powerful and constantly operating *predisposing cause*, rendering it extremely susceptible to the various arts and influences of these species of quackery. If we unite with this, the fact that a very large proportion of regularly educated physicians are almost wholly ignorant of the plants, whether medicinal or non-medicinal, which exist in their own immediate localities, we shall find no difficulty in perceiving how shrewd and designing men, ready and eager to take advantage of this ignorance, and claiming for themselves great and intuitive knowledge on the subject, succeed in imposing themselves on the credulity of their fellow men. They are left, so far as the popular belief is concerned, in almost undisputed possession of the whole field of vegetable remedies, for it is still a prevailing idea among the mass of the community, that there is a wide difference between "*Apothecary Medicine*" and our native medicinal plants. The one, they regard as almost uniformly poisonous—the other, as harmless and healthful. This absurd idea is not only prevalent, and fostered by the species of pretenders to whom we have already alluded, but it is still more powerfully sustained and propagated by those false and alluring advertisements, that occupy so conspicuous a place in

almost every newspaper, and which daily and hourly find their way to every family fireside, instilling their malicious poison even into the minds of our children.

Hence, a thorough study of the general science of botany, with such an attention to medical botany, in particular, as would enable every practitioner to readily recognize and understand the indigenous medicinal agents of his own neighbourhood, would do more to correct the public mind, and stop the progress of the various species of *vegetable* quackery, than any amount of penal enactments. We not only infer this from the nature of the case, but equally so from our own experience and observation. Indeed, we do not remember a single instance within the circle of our acquaintance where any one of the varieties of *vegetable* or *Thompsonian* doctors succeeded in gaining even a temporary foothold by the side of a regularly educated physician who was well versed in the medical botany of his own region. On the other hand, I have known a veteran "root and herb" doctor, who had held a pretty good practice for fifteen or twenty years against his neighbouring practitioners, who, though graduates of some of our best medical colleges, were almost wholly ignorant of botany, general or special, almost entirely shorn of both his influence and practice in two or three years by the settlement of a man who was well versed, not only in medicine proper, but also the collateral sciences; and who lost no opportunity to investigate the botany, geology, and meteorology of his own district. Such a man will invariably satisfy any intelligent community that his knowledge of *roots* and *herbs* even is a hundredfold more perfect than that of all the self-styled Thompsonian, Botanic, Indian, and herb doctors that infest human society. We hope that the standard of preliminary education adopted by the recent National Convention, and so cordially seconded by the various local societies, will soon bring about a better state of things in regard to this subject. For we take it for granted that a good "English education" includes a good knowledge of botany. If any doubt could be entertained on this point, we should earnestly entreat the Association not to adjourn until it had removed such doubt, by specifying this study as an indispensable item in a preliminary education.

But a third consideration, of equal importance with either of the foregoing, is found in the variety, freshness, and purity of vegetable remedies, which a knowledge of our indigenous medical botany always places at the disposal of the practitioner. During the last few years great and well-founded complaints have been made concerning the

adulteration of medicines, and even Congress has been petitioned to enact some special laws to break up the further importation of adulterated and spurious drugs.* And every physician is aware, especially if he has practised in country towns, of the inferior or worthless quality of very many of the imported vegetable remedies and extracts kept in the shops. So much so is this the case, that doubtless the greater part of the differences of opinion which have been promulgated concerning the remedial value and action of particular medicines is attributable to this cause. This will ever remain the case in regard to foreign drugs of vegetable origin, owing simply to the length of time which often elapses between the collection of the article and its finally reaching the practitioner for use. For it is by no means rare that these remedies lie, simply enclosed in papers, three, four, and five years, passing from other countries to our own, through wholesale and retail shops, before they reach the patient; and hence, what else but uncertainty and variableness could be expected from their use? But few things are more essential, both to the success and reputation of the physician, and the welfare of his patients, than the possession of *fresh* and unadulterated medicines. If, then, we can succeed in showing that our indigenous Materia Medica places within the reach of every practitioner, not only vegetable alteratives, diaphoretics, diuretics, expectorants, demulcents, tonics, anodynes, sedatives, and astringents, but even emetics and cathartics, fully equal in efficiency and value to those of any other country, with the additional advantage that they may always be obtained fresh, pure, and reliable, we hope that no one will fail to appreciate the importance of the task we have undertaken.

Since the appointment of your committee, the profession have been favoured with a very complete catalogue of the medicinal plants of New York, by Prof. C. A. Lee. Dr. S. W. Williams and Dr. F. P. Porcher, the able members of the committee from Massachusetts and South Carolina, have also placed in my hands manuscript reports containing very full lists of the medical plants of those states, arranged according to their natural orders. The authors have bestowed on them much time and labour; and hence we beg leave to present them to the Association entire as a legitimate part of our report. On carefully examining these several catalogues, together with other books and papers relating to the subject, we find the

* Since this was written a bill has passed both Houses of Congress, and received the sanction of the executive, regulating the importation of drugs. See p. 336.

names of more than indigenous plants and shrubs ranked as medicinal. For the names of these and their proper classification, we must refer to the reports of Drs. Williams, Porcher, and Lee, copies of which are herewith presented. With these preliminary observations we must pass to a more particular account of such articles as our time has enabled us satisfactorily to investigate.

1. Rumex: *Water-dock* or *Yellow-dock*. Apetalous exogenous. *Nat. Ord.* Polygonaceæ. *Sex. Syst.* Hexandria Trigynia.

At least six species of Rumex are found in this country, besides the Rumex Acetocella, of which we shall not here speak. Three of these, viz: the Rumex Britannica, R. Obtusifolium, and R. Crispus, are indigenous, and the others have been naturalized from Europe. They all possess similar medicinal properties, and are generally used indiscriminately. Their specific characters are too well known to need repetition in this report. They are found in most parts of the United States, particularly in rich pastures, and about yards and out-houses.

The medicinal portion is the root, which is generally described as possessing astringent and slightly tonic properties. But from our experiments and observations, we are satisfied that its chief value consists in its alterative and gently laxative qualities. We have repeatedly given it in the form of decoction, in doses of one or two fluidounces, repeated every four, six, or eight hours, and have pretty uniformly found it to relax the bowels and promote the secretions, especially that of bile, as indicated by the character of the evacuations.

But we have never noticed any marked effect on either the nervous or sanguineous systems. If we have rightly observed the action of this root, it is one of our most valuable indigenous remedies, being fully equal to the far-famed Sarsaparilla as an alterative, and on account of its laxative qualities possessing in most cases a decided advantage over the last named remedy. And in this respect we find our own observations fully confirmed by the experience of others. Thus, in the Bellevue Hospital, of this city, we find it very generally used in a large portion of the venereal, scrofulous and cutaneous diseases, in conjunction with the preparations of Iodine and Mercury, as a substitute for Sarsaparilla, and with the most satisfactory results. It is especially adapted to those cases, accompanied by torpid bowels and inactive secretions of the important abdominal viscera. We do not mean to represent it, as of itself, capable of generally curing

either scrofula or syphilis, but as an adjuvant, to facilitate the curative effects of the more powerful mineral alteratives, particularly in the class of cases to which we have just referred, we think it quite as valuable as any other article we possess. That the Rumex root possesses medicinal properties beyond that of a mere vegetable diluent and mild tonic, we have abundant proof, not only in the sensible evacuations which it produces, but also in its effects on some of the most common diseases of the skin. Thus we have known it, when used externally and internally, to cure several inveterate cases of scabies as effectually and almost as speedily, as sulphur itself. If the foregoing views are correct, every practitioner will readily perceive their important bearing. Sarsaparilla, in some form, has long been deemed an important and almost necessary article in the treatment of many chronic constitutional diseases. But the great difficulty of obtaining the root in such a state of freshness as to make it in any degree reliable, is acknowledged by all. And as regards the thousand and one compounds which flood the country, bearing the names of Extract or Syrup of Sarsaparilla, they are far less reliable than the root. Indeed they vary from simple treacle and water, to the most active mineral solutions; and hence should be condemned by every member of the profession. Now, if the Rumex, which may be found fresh around almost every farmer's barn-yard, really possesses the properties which we have ascribed to it, a due regard for the pecuniary interests, as well as the hygienic welfare of our patients, requires that we substitute it for a foreign article, which, to say the least, reaches the interior of our country in a variable and uncertain condition; and various compounds of which swell every list of patent nostrums in the country. The R. Crispus, or common Yellow-dock, and the R. Obtusifolium, seem to be more laxative in their effects than the other varieties. It is best given in the form of simple decoction, made by boiling one ounce of the dried root or two ounces of the fresh, in a pint of water. Of this, one or two fluid ounces may be given three or four times a-day. It also forms a convenient menstruum for the administration of the Iodides, Mercurials, &c. Externally it has been used, in powder as an application to spongy gums, and in the form of ointment for the removal of cutaneous diseases, particularly scabies, with advantage. No satisfactory analysis of the Rumex root has been made.

2. Lycopus Virginicus: *Bugle-weed.* Monopetalous exogenous. *Nat. Ord.* Labiatæ. *Sex. Syst.* Diandria Monogynia. *Specific cha-*

racters:—Calyx tubular, five cleft, shorter than the seeds; corolla four cleft, scarcely larger than the calyx; stamens four, distant; seeds four, retuse; stem simple, angles obtuse; leaves broad, lanceolate, serrate, base alternated, entire, surface rugose, dotted beneath, opposite; stem quadrangular, one to two feet high; flowers small and in whorls; perennial. Generally found in wet grounds; flowering in July and August.

The Lycopus Europæus, now naturalized in this country, is sometimes mistaken for the Virginicus. The former may be distinguished, however, by its *acutely* quadrangular stem, its narrow leaves, and the more crowded state of its axillary whorls. The whole plant is medicinal, and has been generally described as slightly narcotic and tonic. It was first introduced to the notice of the profession by Drs. Pendleton and Rodgers, of New York, who communicated the results of their experience through the *New York Med. and Phys. Journal*, vol. i. p. 179. By them it was principally used for hæmoptysis and incipient phthisis, several cases of which they have reported as entirely cured by it. It has been since much used in the New York Hospital in similar cases, and the effects ascribed to it by Drs. Pendleton and Rogers have been fully confirmed by the experience of Drs. A. W. Ives, Lawrence, J. M. Smith, F. N. Johnson, and others of this city. Dr. Ives regarded it simply as a mild narcotic, producing its effects by allaying irritability. But others have attributed to it very marked and valuable *astringent* qualities. Thus Dr. Stephen W. Williams, of Massachusetts, in an article contained in the *New York Journal of Medicine and Collateral Sciences*, vol. vi. p. 368, says: "I have used it with marked success in my practice for more than thirty years, in all kinds of hemorrhages, and I think in this respect it is quite equal to the Geranium Maculatum, Catechu or Kino. So much am I accustomed to the use of it in cases of uterine hemorrhage, hæmatemesis, hæmoptysis, hæmaturia, menorrhagia, epistaxis, &c., that very many of my neighbours and friends are as much in the habit of gathering it at the time of its maturity as they are of gathering sage, or any other supposed to be indispensable culinary or medicinal herbs, and they sometimes resort to the use of it without consulting a physician. I have found it more particularly serviceable in hæmatemesis than the other kinds of hemorrhages. . . . . I think I have been instrumental in saving life by the use of this plant in this complaint. In the other hemorrhages, although it does not operate so directly on the bleeding vessels, I think, in addition to its astringency, it produces a *sedative*

effect; and I believe it has, like digitalis, the power of diminishing the frequency of the pulse, and it is on this account that I continue its use a great length of time." And he adds, that when young he was himself "very subject to bleeding at the nose, and was sometimes reduced by it almost to a skeleton, and the surface of my (his) body appeared to be almost bloodless. By a persevering use of a decoction of this plant, he has reason to believe he was much relieved, if not cured, of this troublesome and sometimes dangerous complaint." Rafinesque, who seems to have made many experiments with this plant, says: "I consider it a very good substitute for all narcotics, prussic acid, and even bleeding, since it produces the same state of the pulse and arterial system, without inducing any debility, or acting on the heart and brain in any injurious manner."

Dr. Williams, in the article already alluded to, also quotes the opinion of another judicious practitioner of Massachusetts, who states that he has used the Lycopus with the most gratifying success in more than forty cases of hemorrhage, chiefly from the stomach and uterus.

With all this authority in its favour, we were surprised to find it so little used by practitioners generally, and still more so to find it not even mentioned in the works on Materia Medica, by Eberle, Chapman, Pereira, or Thompson. It is true, that it finds a place in the United States Dispensatory as a secondary article, and eight lines are devoted to a consideration of its medicinal properties and uses; and scarcely more is said of it in the more recent work of Dr. Griffith, on Medical Botany. During the past year I have exhibited it in the form of infusion in a considerable number and variety of cases, and have observed its effects with much care. When taken in health, at the rate of a wineglassful, or more, every two or three hours, it pretty uniformly diminished the force and frequency of the pulse, and induced slight costiveness, without any degree of vertigo, nausea, or other unpleasant symptoms. A poor woman called on me with all the rational and physical signs of phthisis pulmonalis, in an advanced state of developement. Thinking that she would not probably live beyond three months, and her cough being very troublesome and her constitution irritable, I directed her very little medicine, except a mild laxative and the free use of an infusion of Lycopus, taken cold. She has continued this, taking from a gill to half a pint daily, of the infusion, during the whole winter, and she is now, after a lapse of six months, in a much better state of health than when I first saw her. Without, however, extending this report by a

detail of cases, we will give at once the results at which we have come, and the indications which the medicine is calculated to fulfill. First, it is admirably adapted for use in all diseases characterized by excessive discharges of any kind, and an irritable condition of the nervous and arterial systems. Second, its action is that of a direct astringent and sedative, diminishing the pulse and checking the secretions, without producing any perceptible soporific or tonic effects. And third, though not capable of acting as a substitute for bleeding in acute inflammations, yet the qualities just named render it eminently useful in all those hemorrhages, diarrhœas, and chronic coughs, where the system will not bear direct depletion, and where there is too much irritability to allow the use of tonics or stimulants. The Lycopus Virginicus is found in abundance in New England and New York, and I believe in most of the other States of our Union. It should be gathered when in blossom, and carefully preserved in substance. The best form of administration is that of infusion, of which, from one gill to one pint may be given daily. We earnestly recommend it to the general attention of the profession, feeling confident that, if used with due regard to the condition of the system for which its properties adapt it, the most satisfactory results will be obtained.

3. Hamamelis Virginica—*Witch Hazel.*—This is a shrub growing to the height of ten or twelve feet, with flexuous branches, and a smooth gray bark. Its leaves are obovate, obtuse, with a sinuate-crenate margin, obliquely sub-cordate at base; scabrous with minute elevated spots beneath. Flowers on short pedicels, in small clusters. Calyx small, with four thick, oval, pubescent segments, and having two or three small bracts at base. Petals four, yellow and crisped. Stamens four, fertile, alternate with the petals, and four sterile at their base. Ovary ovate, with two short styles. Fruit a nut-like capsule, bilobate, and two-celled, containing oblong black seeds—the flowers appear in autumn after the leaves have fallen, and the fruit is perfected the following year. It is very common in this State, and, indeed, throughout the whole country; growing on hill sides, and along the banks of streams. This plant has long been in use as a domestic remedy in some parts of the country; and a few regular practitioners have used it many years in a variety of important diseases. It is barely noticed in the appendix to the United States Dispensatory, and by Rafinesque, Lee, Barton, Griffith, Williams, &c., but rather with a view to elicit further investi-

gation, than to point out its valuable qualities. The most direct and specific account we have of its virtues, is given by Dr. James Fountain, an experienced and eminent practitioner of Peekskill, N. Y., in the *New York Journal of Medicine*, vol. x. p. 208. He says, "I have used the witch-hazel for more than thirty years in one way or another, as a remedial agent. My attention was first called to it by the country people around me, who use it for all manner of hemorrhages.

"I once met a young man going to market in his wagon, and having by his side a bunch of the witch-hazel in full foliage. I knew that his father and mother, and all the family, no less than eight or ten in number, except himself and a younger brother, had died of *consumption*. He, too, was pale and emaciated, and bade fair soon to follow them to the tomb. He told me he dare not leave home without the witch-hazel, to stop his spitting blood, for as soon as this appeared, he chewed some leaves and swallowed the juice, with the invariable effect of arresting it at once. He has ever since continued to use the leaves or a decoction of the bark. Either of these arrest the hemorrhage, and relieve the pain in the chest promptly. He has since lived many years, although his health is not good. But I presume he owes his life to this one article. And this is only one of the many similar cases of its successful effect. It does not arrest diarrhœas or any morbid secretions, so remarkably as moderate hemorrhages, especially those of the lungs, stomach, and intestines. In hæmatemesis, I have found it to operate like a charm. It appears to be especially adapted to young and irritable subjects." And he adds further, "as to its *anodyne* property, I told Dr. Peixotto, formerly an editor of the *New York Journal of Medicine*, *&c.*, many years ago, that I was convinced it possessed such a principle decidedly. I was led to this conclusion from its relieving pain in cases of hæmoptysis; and the sudden and decided relief it affords to the pain and soreness of piles." In regard to this latter affection, the same writer states that, "about ten years ago, a new ointment from the east, somewhere in the neighbourhood of Danbury, in Connecticut, was peddled about the country, and acquired great fame as an infallible cure for the piles. And in truth it did succeed admirably. Its effects, as an external application, were sometimes truly surprising. Accidentally the recipe for its make fell into my hands, and here it is. R.—Witch-hazel bark; white oak bark, inner part; sweet apple-tree bark, of each three handfuls. Water, three pints. Boil down to one pint—strain;

add lard half a pound, simmer out the water, stirring it continually, before and after removing it from the fire, till it cools. It forms a brick-coloured anodyne, astringent ointment—admirably adapted to the cure of hemorrhoidal tumours." During the past season we have experimented some with the witch-hazel, and have given it in a number of cases of disease; principally in chronic coughs, accompanied by that irritable condition of the system, which usually marks the incipient stage of phthisis, and in hemorrhoidal affections. And in most instances we have derived decided benefit from its use. From our present experience, we think its action very closely resembles that of the Lycopus Virginicus, already described; with the single exception that the witch-hazel is more anodyne or narcotic, and exerts less direct control over the action of the heart and arteries. It is, indeed, a most valuable remedy in the treatment of those diseases to which we have already alluded. And if we remember that those conditions of the system which give rise to the development of tubercles, and indeed to all other heterologous deposits, are essentially conditions of *irritability* leading to morbid nutrition, we shall readily perceive how applicable are such remedies as the Lycopus and Hamamelis, in their early treatment. They seem to fulfil an indication, which is but imperfectly met by any combination of our more common remedies, viz.: the allaying of irritability both in the nervous and vascular systems, without inducing either debility or derangement of the digestive functions. And we are by no means certain that further investigation in regard to this class of remedies will not enable us to control the early stages of phthisis or even cancer, with as much certainty as we now control the common forms of fever. Both the leaves and bark of the Hamamelis possess medicinal properties, but the latter is generally used. Internally, it may be given in the form of decoction made by boiling an ounce of the bark in a pint of water; of which a wineglassful may be given to an adult every three, six, or eight hours. Locally, it may be used as a simple wash, or thrown into the rectum with a syringe, or applied in the form of ointment.

4. Cimicifuga Racemosa: *Actæa Racemosa. Black Cohosh.* Polypetalous exogenous. *Nat. Ord.* Ranunculaceæ. *Sex. Syst.* Polyandria di Pentagynia.

The stem is simple, herbaceous, somewhat furrowed, from three to six feet high; flowers in a long terminal raceme with oftentimes one or more shorter ones at the base. The flowers are white, on

short pedicels with small subulate bracts; calyx white, sepals four, rounded; petals small, shorter than the sepals, and cleft at their apex; stamens numerous with yellow anthers; pistil oval, with a lateral sessile stigma; the capsule is ovoid, dry, with one cell, containing many small flat seeds. The leaves are alternate, one nearly radical, large, decompound, and tripinnate; upper one bi-pinnate. Leaflets sessile, opposite, three to seven, dentate. The root is large, black, and fleshy, with numerous long, slender fibres. The root only is considered medicinal.

It has been used to a limited extent by the profession for many years; but its real properties are little understood. Indeed we are satisfied that the prevailing opinions in regard to its action on the system are entirely erroneous. Thus, we are told by Drs. Wood, Griffith, Lee, Williams, and others, that it is a stimulating tonic. By Dr. Chapman it is ranked among the expectorants; and by Dr. Martyn Payne in his recent Manual of Materia Medica, it is represented as a stimulant diaphoretic. In the United States Dispensatory, the almost universally received standard of authority in this country, we are told that the "Cimicifuga unites with a tonic power, the property of stimulating the secretions, particularly those of the skin, kidneys, and pulmonary mucous membrane." None of these opinions accord with our own experience in the use of this root; and we have used several pounds of it during the last few years, and in a considerable variety of diseases. We have never known it to produce a perceptible increase in any of the secretions of the system, nor has it the slightest stimulating qualities. But we have uniformly found it to lessen the frequency and force of the pulse, to soothe pain, and allay irritability. In a word, it is one of the most purely sedative agents we possess, making its impression chiefly on the nervous system of organic life. In large doses it produces vertigo, dimness of vision, and a depression of the pulse, which remains for a considerable time. These observations are directly confirmed by the experience of Dr. F. N. Johnson of this city, who has used it freely, both in his extensive private practice, and in the wards of the New York Hospital. He informs us that he has at different times selected more than twenty cases of acute inflammatory rheumatism, including the severest forms of that painful affection, and treated them with the Cimicifuga, for the purpose of fully testing its powers in that disease. The results were satisfactory in the highest degree, every vestige of the disease disappearing in from *two* to *eight* or *ten* days, without inducing any sensible evacuation, or leaving behind a single bad symptom. These

trials have been repeated by Dr. Johnson, myself and others, until we have no more doubt of the efficacy of Cimicifuga in the early stages of acute rheumatism, than we have of the power of vaccination as a preventive of variola. Dr. Johnson found the most acute and severe cases that ever came under his observation, to yield to its influence, not only more speedily, but more perfectly and with less danger of metastasis to other organs, than to any other form of treatment.

The only visible effects of the medicine are diminution of the force and frequency of the pulse, disappearance of the arthritic pains and inflammation, with occasional vertigo or disposition to fall on attempting to assume the erect attitude. We place the more reliance on these observations of Dr. Johnson, not only on account of his deservedly high reputation as a practitioner, but because many of his trials were made in the wards of the hospital, where cases could be selected, and all the elements of comparison were much more perfect than in private practice. We are well aware that many other practitioners have used the cimicifuga in rheumatism without the same happy results. But in every instance where we have had the opportunity to make the inquiry, we have found that they had mistaken the kind of cases, and the stage of the disease to which it is most applicable. From its being almost uniformly represented by medical writers as a stimulating excitor of the various secretions, the inference has been very naturally drawn, that it could only be applicable in the sub-acute and chronic forms of the disease, or at most, in the latter stages of the acute form. Whereas, in truth, these are precisely the class of cases in which it proves of comparatively little value; for its curative powers being dependent entirely on its *sedative* influence exerted (as we believe) through the nerves of organic life, it can only prove effectual when given in the early stages before the occurrence of those fibrinous deposits around the ligaments and parts affected, which so generally occur in the latter stages of protracted acute cases, and in all the more chronic forms of the disease. It may prove serviceable as an adjuvant to other remedies even in such cases, but it is only in the acute form of rheumatism that its own complete curative power is exhibited. And, indeed, we may say, as expressed to us by Dr. Johnson a few days since, that *the more acute the disease the more prompt and decided will be the action of the remedy.* The properties we have attributed to the Cimicifuga, will readily suggest its applicability to the treatment of many other forms of disease besides

rheumatism. And experience has already proved it valuable in some forms of chorea, hysteria, and other nervous affections.

The first paper concerning its effects in the treatment of chorea which has fallen under our notice, was from Dr. Young in the *American Journal of Med. Sciences*, vol. ix. p. 310, Feb. 1832. He there details several cases of this disease promptly and effectually cured by the Cimicifuga alone. Since that time so many other similar cases have been reported by different writers, that we can no longer doubt its efficacy in this and kindred diseases when judiciously administered. We say judiciously, because it is not alike applicable to all the cases of any form of disease. Thus we may have chorea from the presence of worms or indigestible food, or other irritating matters in the alimentary canal, and no rational man ought to expect the cure of such cases by using a remedy that generally induces no sensible evacuations whatever. But in all those cases arising from undue irritability or mobility of the nervous system, a state so common in girls about the period when the menses ought to make their appearance, and which may be induced in both sexes by exposures to cold or other accidental influences, and even in those cases which may be kept up by what has been termed habit, after irritating matters that might have existed in the alimentary canal have been removed, we shall find the most decisive and successful results from the use of Cimicifuga in proper doses.

We recollect being called, about two years since, to see a young man several miles in the country, who was labouring under the most severe form of chorea that we ever saw. He was almost constantly in a state of irregular and severe muscular action; so much so that he could scarcely walk across the room, and sometimes so violent that it took two or three persons to keep him from injuring himself. The intervals were so short and imperfect that he scarcely got any sleep for weeks. A neighbouring physician, under whose care he was, had tried all the ordinary remedies, including bleeding, blistering, emetics, cathartics, anodynes, antispasmodics, stimulants, and alteratives, both mineral and vegetable. On a careful examination I could not detect any local or inflammatory affection; almost the only indication of a morbid state consisting in a moderate increase of heat in the head. The case had plainly originated from a sudden exposure to cold while warm from hard labour. I directed the free use of a decoction of the Cimicifuga root, and the pouring of a stream of cold water over the occiput every hour until my next visit. Thirty-six hours after I found him lying quietly in bed, considerably

exhausted, and with a pulse not exceeding 60 per minute. The cold water was discontinued, the decoction given less freely; no return of the disease took place, and in a week or ten days the young man was again engaged in his labour. How much of the prompt and decisive effect was produced by the cold water, and how much by the Cimicifuga, the reader can judge for himself. We have no doubt but the influence of both was important, the first temporary, the latter permanent.

But it was in pulmonary affections, particularly in the early stages of phthisis that this remedy first attracted the notice of the profession. So early as 1823, Dr. J. S. Garden, of Charlotte, Va., published a paper in the *Medical Recorder*, in which he details its influence in his own case, as well as in several of his patients. In reference to his own case he says: "Shortly after commencing the use of this remedy, the hectic paroxysms, which had attended me some time previously, were entirely checked, the nocturnal evacuations from the surface of the body began to diminish, the expectoration of a fluid from the vessels of the lungs and bronchia, resembling pus in appearance, was speedily arrested; the cough became much less troublesome and less frequent. My pulse, which for some time before, was never lower than from 100 to 120 pulsations to the minute, was reduced to the medium standard; the pain in my right breast and side left me, my strength and appetite began to improve, and I speedily abandoned the use of all medicines or other means, except attention to regimen and exercise. A period of twelve months or more had elapsed, from my primitive ill health to the time of using this medicine, during which time I had been bled freely and copiously, kept up a constant discharge from the surface of my breast by the use of blisters, setons, &c., and adhered strictly to a vegetable regimen, but without any relief." And in regard to the modus operandi of the medicine, he says: "It certainly possesses the power in an eminent degree of lessening arterial action, and at the same time imparting tone and energy to the general system." In vol. v., new series, of the *American Journal of Medical Sciences*, 1843, the same writer again recurs to the use of this remedy, the utility of which only seems to have been confirmed by his subsequent experience of twenty years. In vol. iv. of the same journal we have an article from Dr. Charles C. Hildreth, of Zanesville, Ohio, on the use of the Cimicifuga in phthisis pulmonalis, in which he details three cases of this disease successfully treated by this remedy in conjunction with iodine. He agrees fully with Dr. Garden, whose

opinion in regard to its mode of action and effects we have already quoted. We have never relied on this remedy alone in the treatment of any of the forms of pulmonary disease; but we have used it much in all the forms of tuberculous or scrofulous diseases and with the most gratifying results, when combined with the preparations of iodine. For some cases, and further observations on this point, we must refer the reader to an article in the *New York Journal of Medicine and Collateral Sciences*, vol. v. p. 314; premising, however, that since that article was written, our experience has satisfied us that the remedy is neither a stimulant or sensible promoter of the secretions, but a most valuable *sedative* in the true sense of that term. We have not been able to verify its reputed specific action on the uterus; though in many cases of severe headache, apparently depending on simple irritability of the brain in females of delicate habits, I have prescribed a decoction of the root in doses of a wineglassful every three or four hours with the most prompt relief. Several attempts have been made by different individuals to analyze the root, without any very satisfactory results. It is certain, however, that it yields its specific virtues to alcohol more perfectly than to water. Hence it should generally be used in the form of saturated tincture, or in substance pulverized. The first is prepared by macerating four ounces of the root in a pint of diluted alcohol, of which from thirty to sixty drops may be given every one, two, four, or six hours, according to the nature and severity of the case.

In acute rheumatism from thirty to sixty gtts. of the tinct. or twenty grs. of the powdered root should be given to an adult every two hours until its effects are manifest.

We had partially investigated several other indigenous articles, some of which promise very valuable results, but we must delay reporting on them until our investigations are more complete.

And in closing this report we must be indulged in a few words of explanation, by way of apologizing for its meagerness and limited extent. As soon as convenient after the adjournment of the Association in May last, we addressed letters to all the members of the committee, requesting of them suggestions concerning the best course to pursue; and particularly requesting them to collect such facts in regard to the indigenous remedies of their respective States as they might deem valuable, and communicate the same to me previous to the first of January last; thereby giving me time to incorporate them in a general report, promising to exercise due care in giving

proper credit to each individual for the materials furnished. We received prompt answers from Drs. S. W. Williams, of Mass., Phelps of Vermont, and F. P. Porcher of South Carolina; promising to enter on their duties with industry and pleasure. It was our plan to make up a catalogue, embracing all the plants claimed as medicinal in the whole country, based on catalogues presented by members of the committee in the several States. But only two members have furnished catalogues, or, indeed, a single item of knowledge of any kind, and these were presented at so late a period that they could not be used in making this report. That of Dr. Williams was sent me some two weeks since, and the other by F. P. Porcher, M. D., has only been sent in since the present session commenced. Hence no general catalogue has been made; but this is the less to be regretted as another year's delay will render it more complete and valuable. Another part of our plan was to take up a limited number of plants, whose properties and value were not well understood, and investigate them thoroughly in regard to the following points, viz: 1st. What is their mode of action on the human system, and to what parts of the system is their action particularly directed? 2d. What morbid *indications* are they well adapted to fulfil? and 3d. In which of their proximate principles does their medicinal properties reside, and what the best mode of preparation and administration? By such an investigation carried on from year to year, we hoped to succeed in placing the reputation of our indigenous remedies on some more substantial basis, than that of mere hearsay evidence or the report that they had been at some remote period used among the Indian tribes. It will be seen that we have this year made no more than a bare beginning, but we hope that our labours will be sufficient to induce the Association to continue the subject in the hands of a good *working* committee.

Our *analysis* of the plants, mentioned in this report, is not quite so complete as we desired, and hence the results must be reserved until the next meeting of the Association.

All of which is respectfully submitted.

N. S. DAVIS,

Chairman of Committee.

New York, *April 29th*, 1848.

N.

REPORT ON THE NUMBER OF PRACTITIONERS OF MEDICINE IN VIRGINIA.

The committee appointed to correspond with the clerks of the various town and county courts throughout the State, for the purpose of ascertaining, as far as practicable, the number of physicians practicing medicine in this State, the number who practice with the authority of a diploma, or of a license from some legally authorized society, and the number who practice without any authority whatever, in the performance of their duty addressed a circular letter, a copy of which accompanies this report (marked N.—*a*.), to each of the aforesaid clerks.

In reply to this circular, the committee have received communications from seventy-five towns and counties, which have, in the main, given them information as accurate and as full as could have been expected. The result of these communications the committee have embodied in a tabular statement, which they beg leave to submit as a part of their report (see statement marked N.—*b*.).

By examining this statement, it will be seen that the whole number of physicians in these seventy-five counties and towns is 972.—Now there are 119 counties in the whole State. We have received information from nearly two-thirds of these; and as the counties from which we have heard are taken indiscriminately from every portion of the State, it is fair to presume that the result gives us pretty accurately the proportion of physicians throughout the State. —The population of the State of Virginia by the last census was 1,239,797, two-thirds of which would be 826,531⅓. Dividing this number by 927 (two-thirds of the physicians in the State), and we arrive at the result that there is one physician for every 850⅓ inhabitants. This calculation has been made, it is true, from the recorded population of the state in 1840, while the number of physicians with which that population is compared, is estimated for the present year; but it is very doubtful whether the great drain upon the population

of Virginia by emigration, and by the transportation of slaves, will not nearly counterbalance its natural increase.

Of the 972 physicians in the State, it appears that 678 have received diplomas from regularly constituted medical schools. Of these 678, six do not now practice at all, and *one* practices homœopathy. Two hundred and forty-nine (249), more than one-fourth of the whole number, practice without any authority whatever; of these, 1 has attended two courses of lectures, 10 have attended one course of lectures, as also an indefinite number (say 3) in the county of Tazewell, 4 are stated to have studied medicine without attending lectures, and 3 to have been licensed by a medical society (the authority of the societies to grant licenses not being given). Deducting these 21 who have made some pretension to the study of medicine, and we have 228 individuals practicing medicine in seventy-five counties, who do not pretend to have devoted one hour to the study of the profession before entering upon its responsible duties. By reference to the statement it will be seen that the trans-Alleghany counties furnish the greatest proportion of this latter class of practitioners, a fact that probably might be readily accounted for.

The committee content themselves with presenting the foregoing facts to the society without comment, satisfied that the glaring defects which they expose in the present system of medical organization, and of medical education, will call forth the most earnest efforts of the society to remedy these defects as far as lay in its power.

CARTER P. JOHNSON, M. D.,
JAMES H. CONWAY, M. D.,
H. D. TALLIAFERRO, M. D.

N. B.—Since writing the above report, the committee have had access to the report of the 1st Auditor of the State, which contains the number of physicians in each county, as handed in by the commissioners of the revenue, under the late law taxing physicians as a class. According to this document, the whole number of physicians in the State is 1517.

The auditor's report does not give any information on the other points embraced in the resolutions of the National Convention and of the Medical Society.

CARTER P. JOHNSON, M. D.

N.—*a.*

(CIRCULAR.)

Richmond, September 13th, 1847.

To the Clerk of the County of

Sir:—At a meeting of the National Medical Convention, held in the City of Philadelphia in May last, the following resolution, offered by Dr. Pierce of Michigan, was adopted:—

"*Resolved*, That the delegates to this Convention be requested to ascertain, as far as may be practicable, and report to the next annual meeting, the number of Practitioners of Medicine in their respective States—designating the number who may have received a diploma from a Medical College, the number who may have been licensed by a Medical Society, and the number who practice medicine without any authority whatever."

In order to carry out the very important objects embraced in the above resolution, in this State, the Medical Society of Virginia, at its last meeting, adopted the following resolution:—

"*Resolved*, That a committee be appointed, whose duty it shall be, to address a letter to the Clerks of the several County Courts in this Commonwealth, and to the Clerks of the Hustings Courts in its towns and cities, asking for the information required by the resolution of Dr. Pierce."

In conformity with this resolution, we, the Committee of the Medical Society of Virginia, would most respectfully and earnestly ask your aid in obtaining the required information. We would thank you at your earliest convenience to inform us of the number of Medical Practitioners in your county; how many of them practice with the authority of a diploma, and how many without any authority whatever. We of course cannot expect that you will be able to give us the information we desire with great accuracy, and we shall receive your statement as the nearest approximation to the actual condition of the matter, at which you have been able to arrive.

This subject is one of very vital importance, not only to the Medical Profession of our country, but to the interest and welfare of the whole community, and you will materially aid in its investigation by affording us the desired information.

We are very respectfully, your o'bt serv'ts,

CARTER P. JOHNSON, M. D.
JAMES H. CONWAY, M. D. } *Committee.*
HORACE D. TALLIAFERRO, M. D.

N.—*b.*

Tabular statement of the Number of Medical Practitioners in seventy-five towns and counties in Virginia.

Names of Counties.	Whole No.	Number who have received Diplomas.	Number who practice without the authority of a Diploma.
1. Henrico	17	17	0
2. Patrick	5	1	4
3. Mason	6	3	3
4. Culpepper	12	10	2
5. Princess Anne	9	8	1 besides several Thompsonians.
6. Tappahannock	20	20	0
7. Prince George	19	13	6 Thompsonians.
8. Greensville	11	10	1
9. Appomatox	16	13	3
10. Botetourt	20	13	7
11. York	4	4	0
12. Brunswick	19	18	1 and 3 Thompsonians.
13. Hanover	31	31 (4 do not practice)	0
14. Pulaski	4	1	3 (1 of whom attended one course of lectures).
15. Nansemond	9	6	3
16. Rockingham	22	not known	a number of Thompsonians.
17. Montgomery	8	3	5 (1 of whom is licensed by a Med. Soc.).
18. Campbell	20	13	7
19. Middlesex	8	7	1
20. Warwick	1	1	0
21. Pendleton	4	1	3
22. Marion	8	0	8 (3 of whom have attended 1 session).
23. Lancaster	11	8 (2 do not practice)	3 (2 of whom are Thompsonians).

Names of Counties.	Whole No.	Number who have received Diplomas.	Number who practice without the authority of a Diploma.
24. Gloucester	16	12	4 (2 of whom are Thompsonians).
25. Harrison	20	4	16
26. Morgan	5	2	3
27. Carroll	3	0	3 (1 of whom attended 1 session).
28. Accomack	19	19	0
29. Powhatan	13	13	0
30. King and Queen	17	16	1
31. Page	4	3	1
32. Wayne	3	0	3
33. Taylor	3	2	1
34. Doddridge	8	2	6
35. Monongalia	13	5	8 (4 of whom have studied medicine.)
36. Kenhawa	15	11	4 Thompsonians.
37. Ohio	17	12	5
38. Prince William	13	11	2
39. Hampshire	9	1	8 (3 of whom attended 1 session).
40. Alleghany	4	2	2
41. Jackson	14	3	11 (6 of whom are Thompsonians).
42. Ritchie	3	0	3 (1 of whom is a Thompsonian).
43. Amherst	14	not known	not known.
44. Gilmer	5	0	5 (2 of whom are licensed by a Med. Soc.).
45. Russel	5	1	4
46. Sussex	17	17	0
47. Bath	5	4	1
48. Green	7	3	4
49. Stafford	8	7	1
50. Tazewell	7	1	6 (some of whom attended 1 session).
51. Lee	11	1	10
52. Barbour	9	1	8
53. Nicholas	5	0	5
54. Braxton	5	1	4
55. Charlotte	22	14	8
56. King William	18	17	1

Names of Counties.	Whole No.	Number who have received Diplomas.	Number who practice without the authority of a Diploma.
57. Pocahontas	4	1	3 (1 of whon attended 1 session).
58. Jefferson	26	25	1
59. Roanoke	10	6	4
60. Bedford	24	17	7
61. Alexandria	10	10	1 Thompsonian.
62. James' city	3	not known	not known.
63. Williamsburg	10	do.	do.
64. Louisa	21	21	0
65. Isle of Wight	10	6	4
66. Goochland	16	12	4
67. Richmond county	11	9	2 (1 of whom is Thompsonian, and 1 attended 2 courses of lectures).
68. Spotsylvania	9	8	1
69. Norfolk county	17	16 (1 of whom practices Homœopathy)	1 who has attended lectures.
70. Lynchburg	13	12	1 Thompsonian.
71. Halifax	30	21	9
72. Cumberland	23	19	4 (2 of whom are Thompsonians).
73. Berkeley	11	11	0
74. Mecklenburg	28	27	1 Thompsonian.
75. Richmond city	75	70	5
	972	678	249

N.—1.

Report of the Number of Medical Practitioners in Delaware.

Dr. Couper, on behalf of the delegates from the State of Delaware to the National Medical Convention of 1847, begs leave to submit to the American Medical Association the following report, viz.:—

The number of practitioners of medicine in the State of Delaware is one hundred. Of these, forty-eight reside in Newcastle County, twenty-seven in Kent County, and twenty-five in Sussex County. Of the whole number, seventy are graduates, and hold the license of the State; two are graduates, but practice without any legal authority; seven are not graduates, but practice under the State license, and twenty-one are neither graduates nor licentiates.

Under the general law regulating the practice of medicine and surgery in the State of Delaware, every practitioner is required to take out the license of the State. The graduates of any respectable medical school, and such other persons as shall sustain a satisfactory examination before the Medical Board of Examiners, are entitled to this license on the payment of a fee of ten dollars. But under special acts of the legislature, passed since the date of the general law, Homœopathists and Thompsonians are permitted to practice without diplomas, and without examination by the board, or the payment of a fee.

All which is respectfully submitted.

JAMES COUPER.

N.—2.

Report of Number of Medical Practitioners in Massachusetts, most of whom belong to the Massachusetts Medical Society.

	No. of Pract.	Population in 1840.
Suffolk Co.	280	95,773
Barnstable Co.	31	32,548
Berkshire Co.	70	28,812
Bristol Co.	72	60,165
Dukes Co.	3	3,958
Essex Co.	124	94,987
Franklin Co.	54	28,812
Hampden Co.	58	37,866
Hampshire Co.	57	30,813
Middlesex Co.	184	106,611
Norfolk Co.	82	41,745
Plymouth Co.	56	47,873
Worcester Co.	155	95,813
Nantucket Co.	11	9,012
Total	1237	787,616

This is not the true relative proportion of physicians to population *now*, since the above is the number of physicians in 1847, while the population is according to the census of 1840.

Z. B. ADAMS.

Boston, *April* 29, 1848.

[Stephen W. Williams, M. D., of Deerfield, Mass., in a letter addressed to the Association, reports the names, as far as they could be ascertained, of the practitioners of medicine in the five western counties of Massachusetts. The number of practitioners in these several counties is as follows:

Worcester	191
Hampden	61
Hampshire	62
Franklin	55
Berkshire	76]

O.

A New Feature in the Anatomical Structure of the Genito-Urinary Organs not hitherto described. By GURDON BUCK, JR., M. D., *Surgeon to the New York Hospital, &c. &c.* [*Illustrated with a plate.*]

THERE is scarcely any anatomical division of the human body which has been more thoroughly studied than the Genito-Urinary Organs in the male, and particularly within a recent period.

So minute have been the investigations of living anatomists, that it would hardly seem possible that anything should have escaped their notice, and remain to be brought to our knowledge at the present day, especially such an anatomical feature as the one to which this communication is intended to invite attention.

It is now at least five years since it first attracted my notice while engaged in dissections preparatory to a course of lectures on Surgical Anatomy at the New York Hospital, and from that time to the present it has been demonstrated every year to the class attending the spring course at that institution.

At the close of the college session in the spring of 1846, an opportunity was offered me, through the kindness of my friend, Professor Watts, of the College of Physicians and Surgeons, in the city of New York, of exhibiting this structure to his anatomical class.

If the dignity of a new discovery cannot be claimed in the present instance, it will, perhaps, be conceded that parts already only partially known, are now exhibited in new relations, not hitherto described, and possessing a real interest from their practical bearings.

The anatomical structure in question consists of a distinct membranous sheath investing the penis in the manner to be described, and forming a continuation of the suspensory ligament above, and of the perineal fascia below, and will be best understood by a description of the mode of dissecting it.

The penis and scrotum are to be circumscribed by an incision at the distance of three fingers breadth all around, and crossing the perineum at the anterior margin of the sphincter.

The dissection of the skin and subjacent cellular and adipose tissues is to be made towards the penis, on the level of the fascia lata laterally, and of the perineal fascia posteriorly, and carefully continued to the body of the penis, as far as the corona glandis. By this means, the penis, as well as the suspensory ligament, is denuded of its loose movable investments.

An incision is then to be made along the dorsum of the penis, exactly in the median line, splitting through the suspensory ligament, and extending forward to the corona, between the dorsal vessels and nerves that run parallel on either side. The adhesions of the sheath along the dorsum are firm, and require careful dissection; the blood-vessels and nerves being raised with it, serve as a guide to show the line of adhesion.

The dissection being prosecuted laterally as well as inferiorly and at the extremity, the entire corpus cavernosum is enucleated, the muscles of the perineum being raised with the sheath. It is now clearly seen that the suspensory ligament from above, and the perineal fascia from below and laterally, form one continuous membrane with the sheath, inclosing the corpus cavernosum in its cavity, and embracing the corpus spongiosum urethræ between two layers, one of which passes above, and the other below it. The excavated base of the glans adheres inseparably to the outer surface of the sheath, while, by means of its inner surface, it caps the summit of the corpus cavernosum.

Its adhesions are most firm at the extremity of the corpus cavernosum, along its dorsal surface, and at the insertions of the erector and accelerator muscles.

It is thickest around the corona, along the dorsal surface, and where it forms the suspensory ligament.

Zones of vessels run at regular intervals in the direction of the circumference of the penis, from the dorsal trunks to the corpus spongiosum, between the layers of the sheath.

The cavity formed by the sheath, and occupied by the corpus cavernosum, is limited posteriorly by the triangular ligament.

That portion which covers the perineal muscles, and has been described by authors under the names of the superficial fascia of the perineum, inferior fascia and ano penic fascia, arises laterally from the ascending rami of the ischium, and descending of the pubes, as far forward as the inferior edge of the symphysis, where the two layers meet and form the suspensory ligament. Posteriorly, it is

continued over the transverse muscles, and folding around their edges is prolonged upwards into the ischio-rectal fossa.

It also sends off, from its upper surface, membranous septa between the accelerator muscles in the middle, and the erectors on either side, to join the triangular ligament, and thus forms three distinct and independent sheaths that are confounded anteriorly with the common sheath investing the corpus cavernosum.

M. Velpeau's description of this fascia (*Traité d'Anatomie Chir.*, 3me edit. Paris, 1837, tome ii. p. 214) is the most minute and accurate. He says of it, in addition to the above—"that it is insensibly lost in front upon the body of the penis." Mr. T. Morton (in his *Treatise on the Surgical Anatomy of the Perineum*, London, 1838, p. 12) says of it, that—"anteriorly it passes forwards into the scrotum, where it appears to become continuous with the dartos."

Colles, who has given the most accurate description of the sheath of the penis (in his *Treatise on Surgical Anatomy*, 2d Amer. edit., Phila., 1831, p. 146) says—"on raising the skin we find a ligamentous membrane which invests the penis, and which is derived from the suspensory ligament:" further on he adds—"This ligament, adhering by its upper edge to the symphysis pubis, descends and fixes itself by its lower edge to the dorsum penis, but it does not cease here, for it can be traced, expanding itself over the crura of the penis and urethra, until it terminates at the base of the glans, thus constituting one of the envelopes of the penis."

Other modern anatomists, such as Malgaigne, Cruveilhier, A. Berard, &c., have contributed nothing to render our knowledge of these parts more complete than the authorities just quoted.

The present statement, besides embracing what has been described by Velpeau and Colles, shows the peculiar relations of this sheath to the corpus spongiosum urethræ and the glans penis, which, so far as my researches have extended, have not hitherto been described by anatomists.

Important pathological relations have been shown by Velpeau to depend on the peculiar structure of these parts as described by himself, especially in the formation of abscesses, and extravasation of urine anterior to the triangular ligament. The more complete development of their anatomical relations set forth in this paper, serves to confirm these pathological views, and throw additional light upon them.

The following case of extravasation affords a good illustration.

Case I.—Charles Peak, a seaman, aged thirty-four years, born in England, was admitted into the New York Hospital, February 29th, 1848, with a circumscribed, hard, prominent swelling, of the size of a Madeira nut, in the anterior part of the scrotum, covering and closely embracing the urethra, and also extending on either side around the root of the penis, in the form of an indurated flattened band.

It was very tender to the touch, and contained matter, as was evident from deep fluctuation. The superjacent cellular tissue and scrotum retained their natural suppleness and mobility, and did not participate at all in the deep inflammation. A stricture of the urethra, admitting only the smallest sized bougie, was found within the swelling, and had existed for more than a year.

About three weeks before admission, the swelling in the scrotum first appeared of the size of the end of the finger, after the introduction of a wire sound by the patient himself.

A deep free incision into the tumour evacuated a quantity of fetid urine mixed with pus; and for some time subsequent, urine continued to escape through the wound, in small quantities.

In this instance, the rupture of the urethra had taken place within the sheath of the corpus cavernosum at the stricture, and the inflammatory swelling consequent on the extravasation of urine was thus confined to the narrow limits described; the communication between the urethra and loose superjacent cellular tissue being shut off.

Left to itself, the swelling sometimes gradually approaches the surface, by appropriating to itself, by the adhesive inflammation, the successive layers of cellular tissue covering it, and at length evacuating its contents externally, through an ulcerated opening. This, however, is not uniformly the case. It often happens that the ulcerative process within the abscess goes on in advance of the adhesive and conservative process on the outside, and opens a communication into the loose cellular tissue covering it, the consequence of which is rapid extravasation in every direction, filling up the scrotum, spreading up over the pubes, and sometimes extending along the crest of the ilium as high as the false ribs. It is probably rare that this extensive secondary form of extravasation is not preceded by the circumscribed or primary form, hence the importance of the established rule of practice; to make a free opening into these hard swellings along the urethra, as soon as their existence is ascertained.

Another, and much more rare consequence of an opening of the urethra into the sheath, is the gradual formation of one or more fistulous tracks along the penis, terminating behind the corona glandis, and causing a good deal of thickening and induration of the tissues along their course.

Other pathological and physiological relations will doubtless be deduced from this anatomical structure, when attention shall be more extensively directed to it.

The accompanying drawing, Pl. V., representing the dissection of the sheath of the penis, was made by my pupil, Mr. Moreau Morris.

EXPLANATION OF PLATE V.

A dissection of the sheath of the penis, showing,

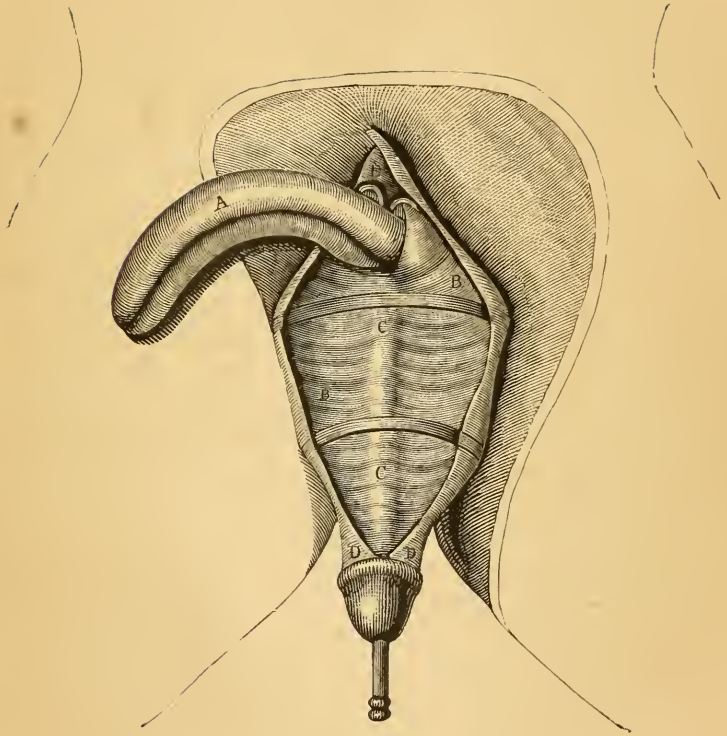
A. The corpus cavernosum, enucleated from the sheath.

B. The sheath, split up through the suspensory ligament, of which it is a continuation.

C. The relations of the sheath to the corpus spongiosum urethræ, one layer of which passes above, the other below it.

D. Its relations to the glans penis, to which the sheath adheres inseparably by its outer surface, while by its inner surface it caps the corpus cavernosum.

E. The dorsal arteries, veins and nerves, raised with the sheath.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P.

"OPHTHALMITIS POSTFEBRILIS;"

A severe form of Inflammation of the Eye, following Typhus Fever, as it appeared in the city of New York in 1847–48. By A. Dubois, M. D. [*Communicated by the Committee on Surgery.*]

Believing with Mr. Jacob, "that the occurrence of a local inflammation of specific character, as a consequence of fever, is a fact of importance, not only to ophthalmic surgery, but to pathology generally," I am induced to offer to the profession the following paper.

During the past year a severe form of ophthalmia, following typhus fever, has made its appearance in this city. As far as I have been able to learn, a similar disease has never before been noticed either in this city or this country. From September, 1847, to May, 1848, twenty-nine patients, suffering from this disease, have been admitted at the New York Eye Infirmary. Before proceeding to speak of the disease, I propose giving a brief sketch of its history, and also of the fever which preceded it as it appeared in Dublin in 1826–27, in Glasgow in 1843, and in New York in 1847–48.

The first published account of this affection of the eye is given by Mr. Hewson in his work on the Venereal Ophthalmia. He reports five cases which occurred in his practice as early as the year 1815. They all recovered under the use of arteriotomy, and calomel and opium. In 1827, Mr. Wallace, of Dublin, published in the 14th vol. of the *Medico-Chirurgical Transactions*, a paper on a "peculiar inflammatory disease of the eye following fever." The following is a brief summary of Mr. W.'s description of the disease:—It occurs as frequently in males as females: the youngest patient was ten, the oldest thirty-six years of age. The right eye was affected in thirty-eight out of forty cases—only two cases in which both eyes were attacked. The general health was seldom deranged;—the disease most generally occurs after that form of fever in which a relapse takes place. The period after the fever at which the ophthalmia occurs is very uncertain—in some immediately—in others not for

months. The disease presents two stages: in the first, there exist only amaurotic symptoms alone; in the second, to these are added symptoms of inflammation. In many cases there are amaurotic symptoms at or even before convalescence from fever, and yet the inflammatory stage has not supervened for weeks or even months. In other cases, dimness of vision has not commenced for several days, weeks, or even months after the febrile attack, and has then been immediately followed by symptoms of inflammation. The amaurotic invariably precede the inflammatory symptoms—the latter uniformly subside before the former. There is not a texture of the eye the structure of which does not suffer materially in the course of the disease.

In 1828 Mr. Jacob, of Dublin, published in the fifth volume of the *Irish Med. Transactions* a paper on "internal inflammation of the eye following typhus fever;"—his description very nearly corresponds with that given by Mr. Wallace. In the *London Medical Gazette* for Nov. 24, 1843, Mr. Mackenzie, of Glasgow, has given an able account of "an affection of the eye following epidemic remittent fever." He very appropriately names the disease "ophthalmia postfebrum," or "ophthalmitis postfebrilis." The following are some of the principal facts he gives. That the disease is evidently a consequence of the fever—that it is generally traceable to some exciting cause, and especially cold. It first commences in the retina, producing great imperfection of vision;—this is soon succeeded by inflammation of the iris, sclerotica, and other textures of the eye. Of thirty-six cases twenty-seven occurred in females, and only nine in males;—the youngest patient was eighteen months, the oldest fifty-six years of age—nearly one half were between the ages of ten and twenty. The right eye was affected in eighteen, the left in ten, and both eyes either together or consecutively in eight cases. The disease came on at from three to sixteen weeks from the commencement of the fever. In several it came on about two weeks after recovery from the relapse. Recovery from disease of the eye was tedious; in the majority of cases two months of careful and uninterrupted treatment has been necessary for a cure. Recovery is more rapid in young than old subjects.

In regard to the fever which preceded the ophthalmic affection as it prevailed in Dublin in 1826–27, the following are some of the principal facts as selected from Mr. O'Brien's account, published in the fifth volume of the *Irish Med. Transactions*. After giving a description of the ordinary typhus, he states that the other species

of fever which constituted the bulk of the epidemic, was one of short periods, terminating in three, five, seven, or nine days. The second of these periods was the most frequent. The disease was rapidly formed, and rapidly terminated, and developed itself with energy from the commencement. The patient would be seized with nausea, headache, pain in the back, and chilliness. Towards evening all these symptoms increased, and the febrile paroxysm was fully formed, —chills became rigors, nausea increased to vomiting, which harassed the patient for the first three or four days, and frequently continued through its whole course. On the evening of the fifth or seventh day, the *exacerbatio critica* commenced, and terminated in a profuse perspiration, which continued through the night. The following morning the crisis was complete, and the patient convalescent. The patient was liable to one, two, or three relapses, which prolonged the whole duration of his illness even beyond that of the most protracted typhus. The liability to relapse was one of the most striking characteristics by which this fever was distinguished from all previous epidemics.

In the number of the *London Med. Gazette* before quoted, Mr. Mackenzie gives the following as the most striking features of the epidemic fever as it prevailed in Glasgow in 1843. The fever is remittent in its type—it is sometimes attended with petechia, but not with the measly eruption;—it is often accompanied with jaundice—its first paroxysms coming to a crisis within seven days, a relapse happening almost invariably, but the patient rarely suffering more than two paroxysms;—the mortality does not exceed three and a half per cent. It prevails only among the poor, and in ill-ventilated parts of the city. The fever begins with rigors, headache, and nausea. A striking feature is the frequent and excessive vomiting, attended by pain throughout the whole body, somewhat resembling rheumatism. The patient is generally several days ill, say five or six, when a decided change takes place by profuse perspiration at night. The next morning he is much better. The remissions vary —in some they last only for three or four days—in others for two or three weeks. Nineteen out of twenty relapse—the relapse occurs with the very same symptoms as the original attack. The disease is highly contagious, and is never observed to merge into exanthematic typhus. No particular post-mortem appearances are discovered. The treatment is generally simple and symptomatic.

I am indebted to Dr. Swett, of the New York Hospital, for the following account of the fever as it prevailed in this city during the

past year. "This epidemic differs in many respects from those which have prevailed in former years. In many cases the disease was ushered in very suddenly by a chill, pain in the head, back and limbs, and great prostration—these were followed by febrile reaction, vomiting and loss of appetite. An abundant rose-coloured rash appeared over the body early in the disease. It occurred in patches, irregular in size and shape, and disappearing on pressure. This rash, so striking and characteristic, appeared abundantly on the trunk, sometimes on the limbs, but was never seen on the face. In some cases livid petechial spots were noticed, but they were rare. Sudamina were seldom seen. The condition of the tongue, of the brain and nervous system, did not materially differ from that noticed in the fever of former years, except that the prostration was more rapid and marked in many cases. Diarrhœa, unattended with pain, tympanitis or other abdominal symptoms, was of frequent occurrence. It was readily checked by opium. The duration of the disease was usually from two to three weeks, according to the severity of the attack, convalescence usually sitting in and advancing rapidly. Relapses were by no means unfrequent, the cause generally escaped detection. In some cases convalescence has progressed regularly for a week, or even two weeks, when all the symptoms of the fever returned even to the eruption over the body. The disease was much more contagious than in former epidemics. No constant lesion is observed after death, many cases, when carefully examined, presenting no traces of any organic disease. Occasionally the glands of Peyer have been found affected, and generally they have been noticed as being more distinct than usual, without, however, being properly diseased. Sometimes inflammatory complications were found to exist. In the autumn, ulceration of the large intestines, with symptoms of dysentery, were noticed. In the early part of winter peritonitis was not unfrequent, and during the spring pleurisy. Bronchitis was very common, and inflammation of the fauces, tending to œdema of the glottis, was occasionally met with. The *treatment* of the fever has invariably been tonic and supporting, some patients requiring only nourishing broths and wine-whey, while others, and perhaps the majority, required a much more active stimulation, as brandy punch, carbonate of ammonia, &c. To relieve what appeared to be symptoms of local congestion, dry cupping was often used, and when signs of active inflammation supervened, abstraction of blood by local means was only resorted to."

It will be observed that there are several strong points of resem-

blance between the several epidemics, though occurring at different times, and in places widely separated, viz: The suddenness of the attack, the energy with which the disease was developed, its comparatively short duration, great liability to relapse, its contagiousness, and the fact that no special morbid lesions were discovered after death.

Having given this brief sketch of the history of the ophthalmia, and of the fever which succeeded it, I will at once enter upon a description of the *symptoms* as they presented themselves in the cases that came under my own observation. The first symptom that attracted the attention of the patient was the appearance of muscæ volitantes. These may exist alone for several days, but are generally soon followed by dimness of vision and slight uneasiness in the eye. The occurrence of muscæ as a primary symptom, seems to me fully to justify the opinion advanced by Mr. Wallace, that the disease begins in the choroid coat, and then extends itself to the other textures of the eye. At a period varying from a few days to several weeks after the appearance of the muscæ, the eye becomes injected. There is now great intolerance of light and lachrymation. When the disease is fully developed, the eye presents the following appearances:—A pink zone, formed by the injection of the capillaries of the sclerotica, is seen surrounding the margin of the cornea. This zone is occasionally more or less concealed by vascularity of the conjunctiva. The iris is found to have lost all its brilliancy, and to be much changed in colour. The pupil is sometimes dilated, sometimes contracted, sluggish, generally irregular, but rarely adherent to the capsule of the lens. The iritic circle, (a white ring at the circumference of the cornea,) either partial or complete, is generally observed. The cornea appears dull and hazy, owing to the disease extending to the lining membrane of the aqueous humour. That this membrane is affected is farther shown by the occasional presence of lymph in the anterior chamber. In no case have I seen bridles of lymph across the pupil, or tubercles of lymph on the surface of the iris, as is so frequently observed in syphilitic iritis. In one patient in whom both eyes were affected, and in whom the disease had existed for seven months before admission, the entire pupil of the left and the lower half of the right eye were adherent to the anterior capsule. Vision, which in the early stage of the disease is but slightly disturbed, soon becomes seriously impaired, in most instances the patient having a bare perception of light. The pain, too, which at first is slight, and in some few cases is absent, soon becomes severe, particularly the

pain in the brow and temple, which often is so severe at night as to prevent sleep.

Diagnosis.—The disease with which this is most likely to be confounded is iritis, as it is seldom the patient presents himself in the early or amaurotic stage. The previous history of the case, but more especially the fact that in postfebrile ophthalmia, muscæ and dimness of vision *invariably* precede vascularity of the eye, while in iritis, redness, photophobia, &c. exist for several days before vision is disturbed, will readily enable us to distinguish between the two diseases. In its advanced stage, it strongly resembles what Tyrrell describes as chronic choroiditis. In one of the first cases that came under my care, I mistook the disease for amaurosis, the patient being suddenly struck blind, and the blindness continuing for some time without the eye presenting any other signs of disease.

Prognosis.—If the case presents itself before serious change of structure has taken place, and appropriate treatment be at once resorted to, the disease can readily be checked and the eye restored to its healthy condition. Occasionally muscæ continue for some time after all other symptoms of disease have subsided, but they sooner or later entirely disappear. As an evidence that the disease, if left to itself, has a tendency to result in total loss of vision, I would state that in a patient under the care of my colleague, Dr. Wilkes, who discontinued his attendance immediately after his first visit, and who returned again seven months after, the eye was perfectly amaurotic, and still continues so. No remedies had in the mean time been used.

Statistics.—The youngest patient admitted was two years and a half, the oldest forty-nine years of age. Thirteen of twenty-nine patients were between the ages of ten and twenty years. Sixteen occurred in males and thirteen in females. With the exception of six, who were still suffering from the debility consequent upon the fever, they were all apparently in good health. The right eye was affected in fifteen, the left in eleven, and in three both eyes. The period after the fever at which the ophthalmia made its appearance, varied from several days to seven months. In several cases the muscæ appeared while the patients were still ill with the fever. The interval between the amaurotic and inflammatory stages, varied from a few days to two weeks. In four cases the patients at the time of admission were able to read small print with some difficulty, others had sufficient vision to enable them to count their fingers, but the great majority had a bare perception of light. In only three cases did the patients escape a relapse of the fever; in one case there was a second relapse. The cure occupied from ten days to seven weeks. Nearly

one-half were cured in from two to three weeks. I have never met with a case of the disease among the better class of people. I have heard of two medical gentlemen who, after recovering from fever, were troubled for some time with muscæ, but as yet the disease has extended no further.

Treatment—Depletion.—In by far the greater proportion of cases, local depletion by means of cupping was resorted to, and with decided relief. The cupping was repeated several times, at intervals of two or three days. In no instance, however, was venesection practiced. Considering the remarkable unanimity of opinion among the several writers on this disease as regards its cause, history, and symptoms, it is somewhat surprising that they should differ so widely as to its nature and treatment. Messrs. Jacob and Mackenzie, for example, look upon the disease of the eye as one of active congestion, and the inflammation as decidedly acute in its character. Acting upon this opinion, they both, particularly the latter, strongly insist upon the necessity of depletion, both local and general, for its cure. Mr. Jacob recommends depletion "in proportion to the urgency of the symptoms;" but Mr. Mackenzie remarks: "I am satisfied that we can rarely with safety dispense with general depletion—if it is neglected, the recovery is slow and uncertain—adhesions form and cannot be got rid of, and vision continues imperfect. We must not be regulated by the pain alone, but the state of the eye, independent of the pain, demands the taking away blood. We should not even wait for the inflammatory stage of the disease, but relieve the congestion upon which the amaurotic symptoms depend, by the use of the lancet." Mr. Jacob states that the disease "is more common among the poor than the rich, and is therefore probably to be referred to exposure to cold and to *insufficient nourishment* after the fever." Mr. Mackenzie describes the fever which precedes and gives rise to the ophthalmic affection "as prostrating in its effects upon the system, that it only occurs among the poor—those living in ill-ventilated and crowded places, and those who are *badly nourished.*" In speaking of the exciting causes of the disease he says: "There may even be grounds for suspecting that the fever may have left the *circulating fluids in an altered state*, favourable for the production of the local complaint." Among the various sequelæ of the fever, he mentions "long-continued debility." To one who has no theoretical notions to sustain, in regard to the nature of the ophthalmic disease, it would seem, a priori, scarcely reasonable, that persons recently recovered, nay, in some instances

merely convalescent from so prostrating a form of fever, and who of necessity have returned to their "crowded and ill-ventilated homes and poor fare," would tolerate, much more require, general depletion! Even Mr. Mackenzie himself acknowledges "that the wan appearance of many of the patients, the smallness of their pulse, and the state of general debility in which they are, might tend to deter from the use of the lancet—that often it is difficult, from syncope coming on, to obtain more than a few ounces from the arm, and that the blood drawn is only in a few instances buffy." There seems a great inconsistency between the opinions just quoted, and those given in favour of the necessity for the use of the lancet. The urgency for depletion must indeed be great, to justify its use in those of "wan appearance, with a small pulse, and in whom syncope follows the abstraction of a few ounces of blood!" As is remarked by Dr. Swett, the treatment of the fever as it prevailed in New York "has invariably been tonic and supporting—that even in those cases in which signs of *active inflammation* supervened, *local* depletion by means of cupping was only resorted to." In any objections to the use of the lancet in this disease, I will not trust to mere theory alone, but confidently appeal to facts to sustain me. A careful comparison of the results of the cases treated by Mr. Mackenzie, by Mr. Wallace, and those treated at the New York Infirmary, will prove most conclusively, that the use of the lancet is not necessary for the cure of this disease.

Mercury.—I most cordially agree with Messrs. Hewson, Mackenzie and Jacob, in the favourable opinion they entertain of the beneficial effects of mercury. Indeed, when we consider the extent to which the retina, choroid and iris, particularly the latter, are involved, and the serious changes they undergo in the progress of the disease, we should not hesitate for a moment to have recourse to this invaluable agent. Pills containing two grains of calomel and a quarter of a grain of opium were given thrice daily; their use was continued till the gums became slightly affected, when either a single pill at night or five grains of Plummer's pill were substituted, and a slight mercurial influence was thus kept up for some time. For the relief of the supra and circumorbital pain, as well as for the purpose of dilating the pupil, a portion of the following ointment applied about the brow and temple was found of great benefit. ℞.—Ungt. hyd. fort. ℥j; pulv. g. opii ʒj; ext. stramonii ʒij.

Tonics.—We are indebted to Mr. Wallace for first calling attention to the value of this class of remedies in the treatment of this

disease. Like most others, however, who have introduced new remedies, or suggested new modes of treatment, he has carried his views of the efficacy of bark and quinine to an extent that subsequent experience has not justified. He considers cinchona a specific in this disease, and trusts to it alone, without reference to the state of the eye, or the condition of the patient's general health. My own experience has convinced me that the use of quinine, in connection with other means, is of great benefit; that, in some cases, as that of Wilson, to be hereafter referred to, it is capable alone of effecting a cure. The broad ground, however, taken by Mr. Wallace, that in all cases, whatever may be the state of the eye, or the condition of the general health, the use of quinine is alone sufficient, will be found as untenable as that taken by Mr. Mackenzie, that we can rarely dispense with the use of the lancet, even though the patient be suffering from great debility. Both, to a certain extent, are right, and both, to an equal or greater extent, are wrong. That there are cases of postfebrile ophthalmia which are benefited by moderate depletion, there can be no doubt—that there are others which are injured even by moderate depletion, and greatly benefited by the use of tonics, is equally true. The great point in practice is to discriminate between these cases, to decide beforehand which require depletion, and which require building up. In both, as far as the state of the eye itself is concerned, they present quite the same appearance; in both, there are the same redness, pain, intolerance of light, the same change of structure and disturbance of vision, and it is only by carefully examining into the state of the general health, that we are enabled to decide upon the proper course of treatment. I believe, with Mr. Wallace, "that there are many physicians who scarcely extend their therapeutics beyond the lancet, the leech and the purge, and when these fail, the case is treated empirically, or set down as hopeless, or is left to Nature, who often, on such occasions, performs the office of a skilful physician, and when allowed to proceed without interruption, sets up processes of restoration which are quickly followed by recovery." In the treatment of diseases of the eye, as in that of most local affections, the state of the patient's system has been too much neglected, and I cannot permit this opportunity to pass, without expressing my opinion of the great obligation the profession are under to the late Mr. Tyrrell, for so ably enforcing by argument, and illustrating by examples, as he has done in his valuable work on the eye, the necessity of ascertaining whether your patient is, as he so

aptly expresses it, "above or below par." A want of attention to this point has been the means of losing many an eye, that otherwise might have been saved. Those much engaged in treating diseases of the eye, must frequently have met with cases, particularly those of syphilitic iritis, presenting all the appearances of active inflammation, which cases, under the ordinary routine treatment by depletion, mercury, &c., have gone on from bad to worse, and which have afterwards yielded like magic to a generous diet and the use of quinine. While engaged in preparing this paper, the question was asked of me—"If quinine was capable of removing lymph effused on the surface of the iris in inflammations of that texture." Observation has satisfied me that it can.—Not *directly*, however, as is done by mercury in iritis occurring in otherwise healthy subjects, but *indirectly*, by putting the system in a state favourable for the proper action of the absorbents. If these views are correct, we can readily understand why the cases reported by Mr. Wallace so readily yielded to quinine. The fourteen cases he reports are divided into three classes. 1st, seven cases in which "bleeding, purging and mercury had been used in vain." 2d, three cases in the "primary or amaurotic stage." 3d, four cases in "the secondary or inflammatory stage." A careful examination of the cases included in the first class, will evidently show that, at the time they came under Mr. Wallace's care, they were all in a condition favourable to the administration of tonics; that is, they had all recently recovered from fever; they had all been bled and purged freely, and had taken mercury to the extent of producing salivation, which salivation had, in some instances, been kept up for weeks. In short, they were all decidedly "below par," and only required building up, that Nature might go on and effect a cure. In the second class, there had been no previous treatment, but they were all in feeble health at the time. In the third class, the first patient had been bled and purged; under the use of bark he entirely recovered in three weeks. The state of health of the second patient is not stated. The third had recently left the Fever Hospital, and the fourth had been previously bled and purged.

Messrs. Reid, Colles and others used bark at the suggestion of Mr. Wallace, and all confirm his opinion as to its efficacy. I have administered quinine to several patients suffering from postfebrile ophthalmia, and who, at the time, were apparently in perfect health. In two cases, to be hereafter given, quinine was faithfully tried for a week. The symptoms were so much aggravated that I thought it

unsafe longer to continue its use. They were subsequently treated by calomel and opium, cupping, the application of the mercurial ointment with opium and stramonium, with an occasional anodyne at night. They both rapidly improved. Mr. Mackenzie used quinine, in connection with other remedies, in ten of the sixteen cases reported by him. He remarks that "from his experience, he has not formed a very high opinion of its efficacy, and that, notwithstanding some of the milder cases have yielded, in a great measure, to a combination of calomel and quinine, on the whole he is indisposed to trust to this remedy." Mr. Jacob tried quinine in "four well marked cases for eight days, and finding no relief, gave mercury, which effected a cure in the usual time. He knew of no curative means that merits more attention in most forms of ophthalmia, when occurring in debilitated or scrofulous subjects, or after the injudicious use of mercury."

Mary Gall, aged 13 years, admitted as an outdoor patient, Oct. 13th, 1847; landed at quarantine on the 1st of June; many of her fellow-passengers were sick of fever on the voyage. About the middle of June she was taken ill of the same disease; was confined to her bed for twelve days; relapsed after two days. Second attack continued for ten days. After one week had a *second relapse*, which lasted for two weeks. Three weeks after her recovery, first noticed muscæ volitantes and dimness of vision in the *right* eye; a few days after the eye became injected.

Present Condition.—General health good; pink zone around the cornea; iris discoloured; state of pupil not noted; severe pain in and about the eye; vision barely sufficient to perceive light. She was cupped several times, and took pills containing calomel two grains, and opium one-quarter of a grain, thrice daily till her gums were tender. In a fortnight she was discharged cured; vision perfect.

Edward McCormick, aged 29, admitted Jan. 28th, 1848; came from the country in the early part of August; soon contracted fever; was ill between five and six weeks without any remission. In the early part of November noticed muscæ and dimness of vision in the *right eye*. After a fortnight the eye became injected; general health good; iritic zone and circle complete; iris of a yellowish-green colour; pupil regular, but sluggish; great pain and intolerance of light; sufficient vision to distinguish large letters on infirmary card.

Treatment.—C.C., a pill of calomel and opium thrice daily.

Feb. 9th.—Vascularity greatly diminished; vision improved; gums slightly affected.

19*th.*—Eye entirely free from redness; iris natural; pupil active; vision much improved.

28*th.*—Can see to read small print. Discharged.

Margaret Orpen, aged 25, taken with fever on the 25th of Dec.; was confined to her bed for a fortnight; in three days had a relapse; was ill for three or four days.

Feb. 1*st.*—Noticed muscæ in the left eye; on the 6th was seized with severe pain, and on the 7th, the day of her admission, the eye became injected.

Present Condition.—General health good; iritic zone complete; iris much changed in colour; pupil regular; somewhat enlarged and sluggish; anterior chamber hazy; severe circumorbital pain; great intolerance of light; can barely perceive light.

Treatment.—She was cupped several times; took calomel and opium until her mouth was affected; applied the ungt. hyd. op. c. stram. to the brow.

March 1*st.*—Pain and intolerance of light entirely gone; less redness; no change in vision.

5*th.*—Eye looks well; can read small print; still somewhat troubled with muscæ.

Margaret Gilfeather.—Aged 11 years; admitted March 6, 1848; had fever in July, which was followed by relapse. Two weeks since muscæ made their appearance before the right eye. Four days after eye became injected and painful.

Present Condition.—General health somewhat feeble; iritic zone complete; iris slightly changed in colour; pupil a little enlarged and circular; pain and intolerance of light; vision but little impaired.

Treatment.—Two leeches to be applied at the outer angle of the eye. These were repeated in forty-eight hours; take powders containing hyd. c. cret. two grains, and Dover's powder one grain thrice daily.

10*th.*—Much better; redness lessened, and vision nearly perfect; continue same.

13*th.*—Eye much worse; aquo-capsulitis; lymph in anterior chamber; severe pain; vision again much impaired; substitute one grain of quinine for the Dover's powder.

20*th.*—Greatly improved.

25*th.*—Entirely cured. Discharged.

Ann Quanan.—Aged 18, admitted March 8th, 1848; had fever in August; did not entirely recover her health till the latter part of October. Two weeks since first observed muscæ and slight dimness of vision in the right eye; four days after the eye became injected and painful.

Present Condition.—General health good; great vascularity of the conjunctiva and sclerotica; iris changed in colour; pupil regular; sluggish; severe pain in and about the eye; great intolerance of light; can barely distinguish her fingers.

Treatment.—Cupping; pills of calomel and opium; ungt. hyd. op. and stram. to be applied to the brow and temple.

13*th.*—Pain gone; vascularity much diminished; sight improved; pupil dilated and regular; rep. C. C., cont. pills; apply a blister behind the ear.

20*th.*—Eye natural in appearance; vision perfect.

James Wilson, aged 35, admitted March 22d, 1848; was taken ill with fever Jan. 14th; convalescent in one week. Four days after had a relapse; was troubled with nausea during the last attack. Four days after recovery from fever the left eye became injected and painful, and vision much impaired.

Present Condition.—Is still feeble, though engaged in his occupation. Yesterday had a chill, followed by fever and perspiration. The eye is very vascular; iritic zone and circle complete; iris greatly discoloured; pupil irregular and fixed; occasional attacks of severe pain in and about the eye; considerable intolerance of light; cannot distinguish large type.

Treatment.—Two grains of quinine thrice daily.

24*th.*—No pain; redness much diminished; vision greatly improved.

29*th.*—With the exception of a slight irregularity of the pupil, the eye looks well; can read small print with ease. This patient discontinued his attendance, and as he had changed his lodgings, I have not been able to ascertain whether or not the irregularity of the pupil disappeared.

Stephen Stanley, aged 26, admitted March 31st, 1848; was ill of fever at the quarantine in November; confined to his bed for ten days; after a convalescence of four days had a relapse; in five weeks from first attack was perfectly well. Between two and three weeks from the commencement of the fever first noticed muscæ and dimness of vision in the left eye; two days since the eye became injected.

Present Condition.—General health perfectly good; iritic zone complete, but more or less concealed by the vascularity of the conjunctiva; no iritic circle; iris but slightly changed in colour; pupil a little enlarged, but regular and active; anterior chamber hazy; a small quantity of lymph at its bottom; great intolerance of light, and lachrymation; pain slight; can see to distinguish his fingers. As this patient, as well as the one whose case will next be given, was in most robust health, and the inflammatory symptoms were severe, I determined to test the value of quinine alone. He was received as an indoor patient that the progress of the disease might be carefully noted; six grains of quinine were ordered daily; by mistake, however, he took ten grains. At the end of a week all his symptoms were greatly aggravated; indeed the patient was so much worse that I found serious mischief might result.

April 7th. — Discontinue quinine; apply hops to the temple; give pills of calomel and opium every six hours; ungt. hyd. op. and stram. to the brow and temple.

10*th.*—No change; repeat C. C., continue pills.

12*th.*—Eye much better; vascularity greatly lessened; vision improving; mouth sore; give one pill at night and ten grains of Dover's powder.

16*th.*—Pupil has been thoroughly dilated by the stramonium, and is quite irregular; can read the smallest print with the affected eye.

William Brady, aged 17, admitted March 31st, 1848; had fever on his voyage from Liverpool in Dec. last; ill for ten days; no relapse. Three weeks since first noticed muscæ and dimness of vision in the right eye; one week after the eye became injected.

Present Condition.—General health and state of the eye correspond precisely with that of Stanley.

Treatment.—The same; result at the end of a week the same.

April 7th.—Discontinue quinine; to be cupped; take a pill of calomel and opium every six hours; ungt. hyd. and stram. to brow and temple.

12*th.*—Greatly improved; has been cupped freely twice; mouth sore; pain and intolerance of light gone; vascularity much diminished; can distinguish large type.

14*th.*—Patient improving rapidly; can see small print.

Q.

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TREASURER.

ISAAC HAYS, M. D., *Pa.*

PERMANENT MEMBERS.*

NEW HAMPSHIRE.

Abbótt, Jas. B.	*Sanbornton.*
Bartlett, Josiah	*Stratham.*
Batcheller, Jas.	*Marlborough.*
Crosby, Josiah	*Manchester.*
Fitch, Francis P.	*Amherst.*
Dickey, Abraham O.	*Lyme.*
Flanders, Daniel	
Gage, Charles P.	*Concord.*
Graves, J. G.	
Phelps, Edward E.	*Windsor, Vt.*
Savory, Charles A.	*Hopkinton.*
Smith, Albert	*Peterborough.*
Twitchell, Amos	*Keene.*
Twitchell, George B.	*do.*
Woodbury, Peter P.	*Bedford.*

* This Catalogue of *permanent members*, consisting "of all those who have *served* in the capacity of delegates," and of such as have received "the appointment by unanimous vote," was compiled from the signatures of the members, as being more authentic than the lists reported by the Committees on Credentials. The difficulty of deciphering the names in many instances, and in many, also, the neglect of inscribing the writer's address, must plead in extenuation of whatever errors and omissions may be detected. The names and addresses, with one or two exceptions, are given exactly as registered, without any attempt to designate changes of residence, or to indicate those whom the Association has lost by death. For the correction of future lists, it is requested that the Secretaries may be informed of all errors and omissions in the present Catalogue, at or before the time of the next meeting.

VERMONT.

Carr, E. S.	*Castleton.*
Cushman, E.	*Orwell.*
Hall, Charles	*Burlington.*
Hatch, Horace	*do.*
Markoe, T. M.	*New York.*
Ranney, W. R.	*Townshend.*

MASSACHUSETTS.

Adams, Z. B.	*Boston.*
Bartlett, Josiah	*Concord.*
Batcheller, Stephen	*Royalton.*
Bowditch, H. I.	*Boston.*
Bridgman, Wm.	*Springfield.*
Curtis, Josiah	*Lowell.*
Cutler, N.	*Pepperell.*
Dalton, J. C.	*Lowell.*
Flint, Edward	
Graves, Jno. W.	*Lowell.*
Green, John	*Worcester.*
Hale, Enoch	*Boston.*
Holmes, Oliver W.	*do.*
Huntingdon, Elisha	*Lowell.*
Jeffries, John	*Boston.*
Jennings, Selden	*Richmond.*
Kimball, Gilman	*Lowell.*
Parkman, Samuel	*Boston.*
Peirson, A. L.	*Salem.*
Reynolds, Joseph	*Gloucester.*
Shattuck, jr., G. C.	*Boston.*
Smith, J. V. C.	*do.*
Spooner, Paul.	*New Bedford.*
Stedman, C. H.	*Boston.*
Ware, John	*do.*
Warren, John C.	*do.*
Williams, Stephen W.	*Deerfield.*

RHODE ISLAND.

Dunn, Theophilus C.	*Newport.*
Fowler, Ezekiel	*Smithfield.*
King, David	*Newport.*
Mauran, Joseph	*Providence.*
Parsons, Usher	*do.*

CONNECTICUT.

Barker, B. Fordyce	*Norwich.*
Beresford, S. B.	*Hartford.*
Brigham, Norman	*Mansfield.*
Bishop, E. H.	*New Haven.*
Canfield, Joel	*Guilford.*
Fowler, R. M.	*Litchfield.*
Hatch, Johnson C.	*Kent.*
Hammond, J.	*Killingly.*
Ives, Eli	*New Haven.*
Ives, N. B.	*do.*
Jewett, P. A.	*do.*
Knight, Jonathan	*do.*
Middlebrook, Elijah	*Trumbull.*
Peters, M.	*Woodville.*
Platt, G. L.	*Waterbury.*
Punderson, S.	*New Haven.*
Sumner, George	*Hartford.*
Warner, Richard	*Middletown.*
Welch, Archibald	*Wethersfield.*
Wright, A. A.	*Canaan.*

NEW YORK.

Adams, J. G.	*New York.*
Ayres, Daniel	*Brooklyn.*
Ayres, Daniel	*Amsterdam.*
Atwater, D. F.	*Brooklyn.*
Barnes, Enos	*Geneva.*
Beadle, E. L.	*New York.*
Blakeman, W. M.	*do.*
Blatchford, T. W.	*Troy.*
Bradford, G. W.	*Turner, Cortland Co.*
Brinsmade, Thomas C.	*Troy.*

Buck jr., Gurdon	*New York.*
Bulkley, H. D.	*do.*
Burwell, Bryant	*Buffalo.*
Carr, Edson	*Canandaigua.*
Cary, Walter	*Buffalo.*
Clark, Alonzo	*New York.*
Cock, Thomas	*do.*
Cock, Thomas F.	*do.*
Cook, Simeon A.	*Ruskerk's Bridge.*
Corliss, Hiram	*Greenwich, Washington Co.*
Davis, N. S.	*New York.*
Downs, H. S.	*do.*
Draper, J. W.	*do.*
Dubois, Abram	*do.*
Earle, Pliny	*do.*
Ferguson, John T.	*do.*
Flint, Austin	*Buffalo.*
Foster, Joel	*New York.*
Foster, S. C.	*do.*
Francis, John W.	*do.*
Gilman, C. R.	*do.*
Greene, Isaac	*do.*
Green, H.	*do.*
Griscom, J. H.	*do.*
Halsted, T. M.	*do.*
Hamilton, F. H.	*Buffalo.*
Hard, P. H.	*Oswego.*
Hubbard, S. T.	*New York.*
Hyde, Frederick	*Cortlandville.*
Hyde, Lucius	*Brooklyn.*
Jerome, J. H.	*Trumansburg.*
Jewett, Harvey	*Allen's Hill, Ontario Co.*
Kissam, R. S.	*New York.*
Lee, Charles A.	*do.*
Linsly, Jared	*do.*
MacFarlan, E.	*do.*
March, Alden	*Albany.*
Manley, Jas. R.	*New York.*
M'Call, John	*Utica.*
M'Naughton, James	*Albany.*
Metcalfe, John T.	*New York.*

Moses, Israel (U. S. A.)	*New York.*
Mott, Valentine	*do.*
Ogden, Benjamin	*do.*
Parker, Willard	*do.*
Pattison, Granville S.	
Pierce, J. B.	*Lyons.*
Phelps, Jas. L.	*New York.*
Pond, Jas. O.	*do.*
Post, Alfred C.	*do.*
Punnett, John	*do.*
Reese, D. Meredith	*do.*
Russ, J. D.	*do.*
Sayre, Lewis A.	*do.*
Skilton, Avery J.	*Troy.*
Smith, Albert	*New York.*
Smith, Charles D.	*do.*
Smith, Joseph M.	*do.*
Snyder, Morgan	*Fort Plain.*
Stearns, John	*New York.*
Stevens, A. H.	*do.*
Stewart, F. Campbell	*do.*
Stout, Arthur B.	*do.*
Swett, John A.	*do.*
Tefft, Lake I.	*Onondaga.*
Thompson, Jr., A. G.	*New York.*
Van Kleek, J. R.	*do.*
Van Buren, W. H.	*do.*
Watson, John	*do.*
Watts, Jr., Robert	*do.*
White, S. P.	*do.*
Willard, A.	*Greene.*
Wing, Joel A.	*Albany.*
Wood, Jas. R.	*New York.*
Wotkyns, Alfred	*Troy.*

NEW JERSEY.

Cole, N. W.	*Burlington.*
Cooper, Richard M.	*Camden.*
Fithian, Joseph	*Woodbury.*
Garrison, J. F.	*Swedesboro'.*
Gibbon, Quinton	*Salem.*

Haines, Job	*Burlington.*
Hunt, T. E.	*Clarksville.*
Magee, J.	*Paterson.*
Marsh, E. J.	*do.*
Parrish, Joseph	*Burlington.*
Pennington, S. H.	*Newark.*
Pierson, W.	*Orange.*
Read, Zachariah	*Mount Holly.*
Saunders, T. J.	*Woodbury.*
Schenck, F. S.	
Smith, Lyndon A.	*Newark.*
Taylor, O. H.	*Camden.*

PENNSYLVANIA.

Ashmead, W.	*Philadelphia.*
Atlee, W. L.	*do.*
Atlee, John L.	*Lancaster.*
Bache, Franklin	*Philadelphia.*
Baker, C. L.	*Lancaster.*
Bell, John	*do.*
Biddle, John B.	*do.*
Bond, Henry	*do.*
Breitenbach, J.	*Myerstown.*
Bridges, Robert	*Philadelphia.*
Brown, H. J.	*do.*
Bryan, Jos. R.	*do.*
Bryan, J.	*do.*
Burden, J. R.	*do.*
Burrowes, F. S.	*Lancaster.*
Carpenter, H.	*do.*
Carson, Joseph	*Philadelphia.*
Chapman, Nathaniel	*do.*
Clymer, Meredith	*do.*
Coates, B. Hornor	*do.*
Condie, D. F.	*do.*
Corson, Hiram	*Conshohocken.*
Duffield, S.	*Lancaster.*
Ehler, J. A.	*do.*
Emerson, G.	*Philadelphia.*
Eshleman, I. K.	*Lancaster Co.*
Foulke, J. S.	*Gwynedd, Mont. Co.*

Fox, George	*Philadelphia.*
Gerhard, W. W.	*do.*
Gibson, W.	*do.*
Grant, W. R.	*do.*
Griscom, J. D.	*do.*
Haines, W. S.	*do.*
Handy, J. H.	*do.*
Hart, A. C.	*do.*
Harry, S. H.	*Doe Run, Chester Co.*
Hatfield, N. L.	*Philadelphia.*
Hays, Isaac	*do.*
Hodge, H. L.	*do.*
Humes, Samuel	*Lancaster.*
Huston, R. M.	*Philadelphia.*
Jackson, Samuel (Prof.)	*do.*
Jackson, Samuel	*do.*
Janney, B. S.	*do.*
Jewell, Wilson	*do.*
Joynes, Levin S.	*do.*
Kerr, J. W.	*York.*
Kerfoot, G. B.	*Lancaster.*
King, C. R.	*Philadelphia.*
La Roche, Réné	*do.*
Leib, H. F.	*do.*
Maybury, W.	*do.*
McIlvain, W.	*York.*
McCoy, J. M.	*Bellefonte.*
McClintock, J.	*Philadelphia.*
Meigs, C. D.	*do.*
Mitchell, J. K.	*do.*
Moore, J. W.	*do.*
Morris, Caspar	*do.*
Morton, S. G.	*do.*
Muhlenberg, F. A.	*Lancaster.*
Mütter, T. D.	*Philadelphia.*
Naudain, Arnold	*do.*
Neill, John	*do.*
Norris, G. W.	*do.*
Page, W. Byrd	*do.*
Pancoast, J.	*do.*
Parrish, Isaac	*do.*

Patterson, H. S.	*Philadelphia.*
Patterson, G. W.	*do.*
Paul, J. Rodman	*do.*
Pepper, Wm.	*do.*
Randolph, J.	*do.*
Remington, I.	*do.*
Rodman, Lewis	*do.*
Rogers, J. B.	*do.*
Smith, Moses B.	*do.*
Stewart, J. D.	*do.*
Stillé, Alfred	*do.*
Thomas, G. W.	*Norristown.*
Townsend, R. H.	*Philadelphia.*
Tucker, David H.	*do.*
Uhler, John	*do.*
Walker, Isaac R.	*Spread Eagle, Chester Co.*
West, Francis	*Philadelphia.*
Wilson, W. J.	*Potter's Mills, Centre Co.*
Wiltbank, J.	*Philadelphia.*
Wood, George B.	*do.*
Worthington, Wilmer	*Westchester.*
Yardley, T. H.	*Philadelphia.*
Zulick, S. M.	*Orwigsburg.*

DELAWARE.

Askew, H. F.	*Wilmington.*
Baker, G. W.	*do.*
Bush, Lewis P.	*do.*
Couper, James	*Newcastle.*
Cummins, W.	*Smyrna.*
Hamilton, W. N.	*Cantwell's Bridge.*
Jump, Isaac	*Dover.*
Morris, W. W.	*do.*
Perkins, J. D.	*Smyrna.*
Porter, R. R.	*Wilmington.*
Thomson, J. W.	*do.*

Addison, J.	*Baltimore.*
Alexander, A.	*do.*
Armitage, James	*do.*
Atkinson, T. C.	*do.*
Baer, M. S.	*do.*
Bayly, A. H.	*Cambridge.*
Baker, Alfred	*Baltimore.*
Baxley, W. H.	*do.*
Billingslea, J. B.	*do.*
Bond, Jr., T. E.	*do.*
Bordley, J.	*do.*
Briscoe, J. H.	*do.*
Buckler, T. H.	*do.*
Chew, Samuel	*do.*
Clarke, S. R.	*do.*
Cohen, J. I.	*do.*
Cox, C. C.	*Talbot Co.*
Cronise, J. S.	*Frederick Co.*
Dallam, W. M.	*Harford Co.*
Davis, W. H.	*Baltimore.*
Diffenderffer, M.	*do.*
Donaldson, F.	*do.*
Dorsey, Lloyd	*Frederick.*
Dulin, A. F.	*Baltimore.*
Dunbar, J. R. W.	*do.*
Duvall, W.	*Montgomery Co.*
Fonerden, J.	*Baltimore.*
Gibson, C. B.	*do.*
Gittings, D. S.	*do.*
Gunn, J. P.	*do.*
Handy, S. K.	*Somerset Co.*
Handy, W. W.	*Baltimore.*
Harris, C. A.	*do.*
Hemsley, W.	*Caroline Co.*
Hintze, F. E. B.	*Baltimore.*
Hopkins, Joel	*Eldridge Landing.*
Jameson, Sr., H. G.	*Baltimore.*
Jenkins, S. M.	*Easton.*
Kinney, Jr., W.	*Baltimore.*

Leonard, W. T.	*Baltimore.*
Lockwood, J. A. (U. S. N.)	*Annapolis.*
Makenzie, J. P.	*Baltimore.*
Martin, T. W.	*Dorchester Co.*
Medcalfe, W. H.	*Baltimore.*
Miltenberger, G. W.	*do.*
Monkur, J. C. S.	*do.*
Owings, S. K.	*do.*
Pinckney, N. (U. S. N.)	*Easton.*
Power, William	*Baltimore.*
Preston, J. A.	*Harford Co.*
Roberts, G. C. M.	*Baltimore.*
Robinson, A. C.	*do.*
Sappington, T.	*Frederick Co.*
Sim, Thomas	*do.*
Smith, Nathan R.	*Baltimore.*
Stewart, R. S.	*do.*
Stokes, W. H.	*do.*
Teackle, J. N.	*do.*
Theobald, E. W.	*do.*
Thomas, R. H.	*do.*
Tilghman, F.	*Hagerstown.*
Tyler, Samuel	*Frederick.*
Warfield, J. L.	*Westminster, Carroll Co.*
Webster, J. L.	*Baltimore.*
Wescott, A.	*Syracuse, N. Y.*
Williams, W.	*Somerset Co.*
Wood, J. M. (U. S. N.)	*Baltimore.*
Wroth, Peregrine	*Chestertown.*
Yeates, John L.	*Baltimore.*

DISTRICT OF COLUMBIA.

Boyle, Cornelius	*Washington.*
Trye, T. B. J.	*do.*
Howard, F.	*do.*
Johnson, W. P.	*do.*
Lindsly, Harvey	*do.*
May, J. F.	*do.*
Miller, T.	*do.*
Morgan, J. E.	*do.*
Riley, Joshua	*Georgetown.*

Thomas, J. M.	*Georgetown.*
Tyler, Grafton	*do.*
Wynne, J.	*Baltimore, Md.*
Young, N.	*Washington.*

VIRGINIA.

Bates, W. J.	*Wheeling.*
Broocks, J. N.	*Richmond.*
Cabell, J. L.	*University of Va.*
Carmichael, J. F.	*Fredericksburg.*
Corbin, G. Lane	*Warwick Co.*
Haxall, R. W.	*Richmond.*
Houston, M. H.	*Wheeling.*
Howard, Henry	*University of Va.*
Johnson, Carter P.	*Richmond.*
Magill, H. D.	*Leesburg.*
Massie, H.	*Charlottsville.*
M'Guire, H. H.	*Winchester.*
M'Elhenny, S. W.	*Wheeling.*
Peebles, J. F.	*Petersburg,*
Randolph, R.	*Wellwood, Clarke Co.*
Selden, W.	*Norfolk.*
Trigg, Daniel	*Abingdon.*
Upshur, Geo. L.	*Norfolk,*
Wellford, B. R.	*Fredericksburg.*

SOUTH CAROLINA.

Barker, S. W.	*Charleston.*
Elfe, Edward	*do.*
Gaillard, P. C.	*do.*
Jervey, J. P.	*do.*
Moultrie, J.	*do.*
Wragg, W. T.	*do.*

GEORGIA.

Arnold, Richard D.	*Savannah.*
Dugas, L. A.	*Augusta.*
Eve, Paul F.	*do.*
Eve, Jos. A.	*do.*
Garvin, J. P.	*do.*
Tufts, J. B.	*Savannah.*

MISSISSIPPI.

Keirn, G.	*Lexington, Holmes Co.*

LOUISIANA.

Barton, E. H.	*New Orleans.*
Carpenter, W. M.	*do.*
Harrison, J.	*do.*

MISSOURI.

Johnson, J. B.	*St. Louis.*
Litton, A.	*Nashville, Tenn.*
Meade, D. E.	*St. Louis.*
Reyburn, T.	*do.*

WISCONSIN.

Ames, A. E.	

ILLINOIS.

Edwards, W. G.	*Alton.*
Frye, Jos. C.	*Peoria.*
Herrick, J. B.	*Vandalia.*
Rouse, R.	*Peoria.*

INDIANA.

Latta, M. M.	*Goshen.*
Meeker, D.	*Laporte.*
Shipman, A. B.	*Cortlandville, N. Y.*

KENTUCKY.

Mitchell, T. D.	*Lexington.*
Annan, S.	*do.*
Yandell, L. P.	*Louisville.*

TENNESSEE.

Avent, B. W.	*Murfreesborough.*
Buchanan, A. A.	*Nashville.*
Harris, S. H.	*do.*
Knight, L. W.	*Murfreesborough.*

OHIO.

Awl, W. M.	*Columbus.*
Butterfield, J.	*do.*
Delamater, J. J.	*Cleveland.*
Fries, G.	*Hanovertown.*
Gaston, E.	*Norristown.*
Harrison, J. P.	*Cincinnati.*
Howard, R. L.	*Columbus.*
Judkins, W.	*Cincinnati.*
Kreider, M. Z.	*Lancaster.*
Smith, S. M.	*Columbus.*
White, J. F.	*Cincinnati.*
Wilson, H.	*Demos, Belmont Co.*

MICHIGAN.

Pierce, Jas. L.	*Corunna.*

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